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Ward Paper Mills to Begin Operations Shortly

Former Grandfather Falls Plant Being Remodeled to Manufacture High Grade Sulphite Specialties — Reconstruction of No. 1 Machine, Acquired With Mill, Nearly Finished — Production May Be Started In Early April.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., March 8, 1937—With remodeling operations progressing satisfactorily, the newly organized Ward Paper Mills, Merrill, Wis., expects to begin operations about the first of April. The mill formerly was the Grandfather Falls Paper Company, and will now produce a line of high grade sulphite specialties.

Remodelling of the No. 1 machine, acquired with the mill, is progressing rapidly. Later on a second machine is to be installed, but production will start as soon as the first one is equipped for the sulphite runs.

Pending final incorporation, officers have been elected as follows: President, Joseph M. Ward; vice-president, Abe M. Vanderberg; secretary-treasurer, D. C. Everest; assistant secretary, Valeria D. Schaars. G. H. Suhs is to be chief engineer, and Walter Howard will be cashier.

President Ward came to the mill from Detroit, where he had a long experience in the sulphite field.

Labor Disputes Bill

The Assembly, lower house of the Wisconsin Legislature, last week passed the Sigman labor disputes bill by a vote of 63 to 24 under suspension of rules. The bill is now before the Senate for consideration, and modifications are expected.

This controversial measure, some of the provisions of which were objected to by paper manufacturers as well as other industries, was passed in its original form. It provides for a state labor relations board of three members, to be appointed by the Governor, and will assume jurisdiction in all labor disputes. It contains an initial list of unfair labor practices in which employers are forbidden to indulge, outlaws company unions, and makes majority rule mandatory among workers in determining their collective bargaining representatives. Conciliation machinery also is provided.

Amendments were proposed which would have placed administration in the hands of the Wisconsin Industrial Commission, instead of creating a new board for whose expenses there is a $50,000 appropriation. Employers objected because the bill was directed solely at industrial management and placed no restrictions on the workers. The Senate is expected to demand some of these amendments.

News of the Industry

Authority has been given the Wisconsin Valley Improvement Company by the Wisconsin Public Service Commission to raise the level of its newly constructed Rainbow reservoir in the Wisconsin River near Rhinelander, Wis., three feet. The reservoir is at the head of the storage chain which controls water power for the mills of the Wisconsin River Valley. The company also was given permission to construct a canal to divert the Big. St. Germain River around the reservoir at such times as the storage flow from this river reaches the maximum capacity. Tolls of $104,281 levied by the company against water power users benefitting from the control system have been approved by the commission. These cover the last six months of 1936.

Louis C. Fleck of the research department of the Kimberly-Clark Corporation, Neenah, Wis., has been granted a patent on a papermaking process. It is for a "non-dusting" paper, to be made by a continuous operation, applying a coating composition to a heated, partially dried web. The application was approved as to ten claims of originality and improvement. Mr. Fleck applied for the patent in June, 1934, after a year's experimentation. He resides at Appleton, Wis.

John Pinkerton, of the Gilbert Paper Company, Menasha, Wis., has been appointed as chairman of the paper and pulp section of the Fox River Valley and Lake Shore Safety Conference, to be held May 20 at Oshkosh, Wis., according to announcement of E. S. Schrank, general chairman. A co-chairman with Mr. Pinkerton is to be appointed to work out a suitable program for this sectional meeting. More than 2,000 persons are expected to attend the day's rally, covering the entire field of safety.

All of the mills of the Kimberly-Clark Corporation, Neenah, Wis., have completed their elections to select representatives to the general mill council which deals with wages, employment conditions and other problems. The council is to meet Thursday of this week, and will use its new meeting room in the recently completed office building at Neenah for the first time. Elections also have been held by the credit unions at the Badger-Globe mill at Neenah, and the Atlas mill at Appleton, Wis. Claude Brady is president of the Badger-Globe union, and John McLean of the Atlas union.

More Newsprint Plants for Northern Ontario

Premier Hepburn States More New Newsprint Mills Will Shortly Be Under Construction, Due to Forest Policy of Provincial Legislature — Fifteen Thousand Square Miles of Timber Limits Being Reclaimed By Government.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., March 8, 1937.—Matters are moving rapidly and encouragingly in the pulp and paper industry in Ontario. During the past week the Ontario government passed an order-in-council authorizing the Hon. Peter Heenan, Minister of Lands and Forests, to sign an agreement between the provincial government and the Lake Sulphide Pulp Company. The new concern, which is headed by R. O. Sweezey & Co., Montreal, will, as announced in the last issue, erect a six million dollar sulphite plant near Nipigon in the Thunder Bay district. Work will start on June 1. Timber limits sufficient to keep the plant supplied will be leased by the government to the company.

In the Ontario Legislature, the Hon. Mr. Heenan announced that as a result of the forest policy of the provincial government, there would shortly be under construction in Northern Ontario more new newsprint mills. He said this was largely because the government was reclaiming 15,000 square miles of timber limits alienated under previous administrations.

Mr. Heenan added that in 52,000 square miles of timber that 2,000,000 cords of pulpwood could be cut a year and if all the mills in Ontario worked to capacity they could use only 1,400,000 cords, leaving 600,000 cords available annually for export.

Moore Corp. Has Record Year

Moore Corporation, Ltd., of Toronto, experienced the best year in history in 1936. Net profits were equal to $3.12 a share on 302,701 common shares, as compared with $2.18 on 276,241 common shares in 1935. Dividends paid reached $1.15 a share in 1936, as compared with $1 a share in 1935. The last quarterly dividend of 40 cents a share indicates much larger total payments in 1937.

Through conversion of 4,410 shares of Class B preference into 26,460 common shares during the year, the total number of Class B preference shares outstanding was reduced from 16,777 shares at the end of 1935 to 12,367 shares at the end of 1936. Cash on hand of $1,425,987 exceeded total current liabilities, and, in addition, Government and municipal bonds valued at $160,000 were held by the company.

Reflecting the increased volume of business for the year, accounts receivable were up from $1,417,080 to $2,003,788, and inventories from $1,154,651 to $1,376,938. Accounts payable increased from $447,807 to $539,884, and reserve for Federal income taxes from $282,114 to $493,565. Total assets of $9,979,067 include fixed assets of $3,950,605, after deduction of depreciation reserve of $2,980,117.

Corrugated Profits Higher

Corrugated Paper Box Company, Toronto, report net profits of $84,821 for 1936, equal to $11.60 on the 7 per cent, preferred, compared with $8.92 on the preferred a year previous. After preferred dividends, balance was equal to 71 cents on the common, compared with 32 cents in 1935. Current assets of $398,217 are $33,823 higher, while current liabilities of $57,888 leave working capital of $340,329, an increase of $20,705. Early last year, arrears on preferred dividends were funded by issue of 5,343 funding rights.

A new subsidiary, Carlton Specialties, Ltd., has been organized to operate a folding carton division. The company is also increasing capacity of its corrugating plants.

"Business this year," A. T. Whealy, president, stated, "compares favorably with the corresponding period of a year ago and all indications seem to point to continuation of good business conditions."

News of the Industry

Hinde & Dauch Paper Company of Canada, Toronto, is obtaining funds privately at 4 per cent in connection with refinancing the redemption of its 5½ per cent first mortgage bonds. The issue has been called for redemption at 102½ next May 1. The company had $650,000 out on call loan at the end of 1936, indicating working capital in excess of requirements. There was a total of $1,122,000 of the bonds outstanding at the close of 1936. The saving therefore appears to be 1½ per cent, or about $16,500 annually, which would amount to slightly more than five cents a share for the stock. The original bond issue was for 1½ millions in 1928, and it has been reduced steadily by sinking fund installments. Earnings on the common amounted to $1.32 a share in 1936 compared with $1.18 a share in 1935.

Recent advices from Iroquois Falls, Ont., say that operations are now proceeding normally in the plant of the Abitibi Power and Paper Company after a four day tie-up through a strike of forty paper finishers. Negotiations were conducted by T. E. Silver, manager of operations for the Abitibi company, and John Burke, international president of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers. The finishers were assured that all the difficulties would be ironed out to the satisfaction of both parties while production schedules were maintained.

The Great Lakes Paper Company, Fort William, have broken several records recently. The two big machines in one day turned out 368.32 tons of paper and the 304 inch wide Fourdrinier set an all time record of 202.4 tons for one day's run. During the month of January an all time record for average production was established by the mill when 351 tons were turned out by the paper machines for full operating days. The showing was not for actual operating hours which would be in excess of 351 tons.

Thompson-Heyland Lumber, Ltd., Toronto, report that the outlook in the pulpwood market is promising. The firm are entering into contracts at the present time for handling in the neighborhood of 100,000 cords of pulpwood during the coming season. The demand from the mills is much stronger than it was, and poplar is having a very fair call. Prices on the whole are about 10 per cent higher than they were a year ago and this has created a better feeling throughout the northern country. The Toronto company make large shipments of wood to Cornwall and Thorold, Ont., and to the States of New York and Ohio, being among the largest pulpwood handlers in the Domonion.

Chicago Paper Industry Displays Strength

Practically All Grades of Paper Firmer — Book and Cover Papers Exhibit Strong Undertone — Kraft Wrapping Paper Shares Betterment — Ground Wood Papers Show Improvement — Blottings Reach Higher Price Ranges.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., March 8, 1937—Firm and rapidly increasing strength in all lines characterized the Chicago paper market during the week. Following the New York meetings local price ranges strengthened with the week characterized by the increase in prices in specialty lines as they rounded out the advance in the basic groups. Blottings were all reported in higher ranges with the exception of the cheapest grade. Tablets and commercial envelopes were up. All sulphite papers were rumored to be ready for an advance of $10 a ton though this rumor had not been fully substantiated by the time this report was mailed. Groundwoods were reported as moving to higher grounds with krafts also listed in the group with considerably further possibilities. Newsprint markets locally were lagging somewhat. Books and covers gave a satisfactory performance during the week while the board market—reaching down into raw materials purchased since initial price rises —was also joining the parade toward higher ground. Waste papers were only slightly affected by the general improvement in the price structure.

New Tympan Paper Plant

The Cromwell Paper Company, internationally known manufacturers of tympan papers with headquarters in Chicago, has recently announced the leasing of an additional plant at Long Island City, N. Y. The new plant occupies 22,800 square feet of floor space, giving the Cromwell organization ample opportunity to service Eastern customers for tympan and waterproof papers.

Waste Material Convention Plans

Plans are being completed for a record attendance of waste material dealers at the annual convention of the National Association of Waste Material Dealers, Inc., to be held at the Hotel Sherman, Chicago, on March 15, 16 and 17. Three entire days will be given over to group and general meetings of interest to the trade while the annual banquet on the evening of the 17th will wind up the procedure. According to M. Pushker, executive secretary of the Waste Paper Group, approximately 300 waste paper dealers will be among the 1,500 waste material dealers who will come from all parts of the country to attend the sessions. The waste paper group plans a series of important conferences on grading, quality, packing, market conditions, reports and statistical information which has been drawn up by the local institute in the interests of the trade. Small, informal meetings with round table discussions featured are expected to be crowded into the three day session. H. Finder, Aetna Waste Paper Company, is the president of the Waste Material Institute of Chicago which has its offices at 228 North LaSalle street.

Mid West Paper Salesmen Meet

The Monday, March 1, meeting of the Salesmen's Association of the Paper Industry, Midwest Division, was presided over by Jack Burrus, recently re-elected vice-president of the division. Almost the entire meeting was given over to a discussion of market conditions with those present obviously firmly convinced that prices were destined to go materially higher. The association also reviewed the successful meetings in the East and the part played by the association in their conduct.

News of the Industry

The National Council of Business Mail Users, planning to interest itself in the Business Show soon to be held in Chicago, recently elected officers for the ensuing year. Homer J. Buckley, president of Buckley, Dement & Co., was elected president; while R. S. Bull, president of Bradner, Smith & Co., was elected one of the regional vice-presidents. Mr. Bull represents the National Paper Trade Association on the board of the National Council of Business Mail Users.

An appropriate "Easter Message" has been mailed out to the trade by the Swigart Paper Company. Printed on Strathmore Double Deckle, 25 x 38-80, blue-white laid, the message calls attention to the fact that printed messages and advertising should be in keeping "with the warmth and color of the new season." Users are advised to select from Linweave, Strathmore and Japan papers which "offer the utmost in quality, color and uniqueness."

The J. W. Butler Paper Company, Chicago and Peoria warehouses are stocking all four of the new papers manufactured by the Nekoosa-Edwards Paper Company—Bond, Ledger, Mimeo and John Edwards Bond. All four have been given a concentrated bit of advertising and merchandising as sulphite papers suitable in looks and designed to give performance in many varied fields.

Although distributed less than a month ago, the splendid portfolio on Really Flat Gummed Papers produced by the Mid-States Gummed Paper Company, is fairly well consumed by the trade who found the limited number of copies of the portfolio and the unusual character of the work sufficient to put the mark of scarcity on it. The portfolio of some 52 pages is 16 inches by 14 inches in size and contains upwards of 70,000 actual specimens of labels, stickers, and stamps. It also contains invaluable suggestions as to use and represents a most commendable method of cooperation with the trade.

New P & H Hoists Catalog

The Harnischfeger Corporation, 4400 West National avenue, Milwaukee, Wis., has issued a new bulletin called "P & H Hoists." Profusely illustrated with more than 25 industrial application photographs, the bulletin describes the added advantage in handling "off-the-floor."

It contains the treatment of both general and specific problems in the industrial handling field as well as many diagrams which explain simplified construction and operation, together with other vital points in modern hoist design.

The bulletin lists the ratings and operating ranges for hoists from the hundred pound capacity to fifteen ton capacity sizes, as well as specifications and electrical accessories.

Copies may be had upon application to the company's agent and representative, or to the factory directly. Ask for Bulletin No. H-5.

Paper Mill Equipment Makers Busy In Canada

Two Giant Newsprint Paper Machines Being Constructed in Montreal for New 320-Ton Mill at Comeau Bay—Another Quebec Company Building 18-Foot Diameter Pen-Stocks for Hydro-Electric Power Plant At Same Plant.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., March 8, 1937—Heavy industries specializing in the manufacture of pulp and paper mill equipment are busier now than they have been for years. The most important orders are for the equipment of the 320-ton newsprint mill now under construction at Comeau Bay, on the lower St. Lawrence by the Ontario Paper Company. Good progress is being made on the construction here in Montreal of two giant newsprint machines for this plant.

Another firm here is building 18-foot diameter steel penstocks for the same company's hydro-electric power plant. Only the penstocks at Boulder Canyon and on the River Shannon, in Ireland, will exceed these penstocks when they are installed. The principles of the design are quite new in engineering practice.

Much renovation of machinery and improvement in equipment is going on in existing pulp and paper mills. The Bathurst Power and Paper Company has placed contracts to the amount of some $650,000 for improvements to its plant at Bathurst, N. B. The Howard Smith Paper Mills are spending about $65,000 on a soda pulp mill at Cornwall. The Donnacona Paper Company is spending $60,000 on additions to its mill at Donnacona, Que., and is also building two newsprint carriers at a cost of $800,000.

Price Brothers Making Progress

At long last, the big newsprint and lumber firm of Price Bros. & Co., Quebec, is settling down to ordered progress under a new regime. Both preferred and common shareholders have approved the company's plan of reorganization, involving a reduction of capital from $60,000,000 to $30,000,000 and the issue of new bonds for the purpose of effecting rehabilitation of the finances has met with a good reception.

After approving generally all the directors' moves in the proposed reorganization, shareholders accepted the directors' resignation and elected a new board consisting of five Montrealers, three Quebec men and one from London, England. The new board consists of: A. A. Aitken, Paul P. Hutchison, J. D. Johnson, John C. Newman, Paul F. Sise, all of Montreal; A. P. Marcis, A. C. Picard, A. C. M. Thompson, K. C., all of Quebec; and Sir Keith Price, London, England.

Logging Operations Improve

Better progress has been made in the past month in logging and pulpwood cutting than in January, although climatic conditions were none too favorable. It is still feared that the cut in several districts will fall short of that planned. Certainly the total wood supply of all forest industries in Central and Eastern Canada will fall below requirements if the current demand for their products is maintained.

Demand for Newsprint Keeps Up

Commenting on the newsprint industry, the monthly letter of the Canadian Bank of Commerce, just issued, says: "While newsprint production in the early part of this year (it was about one-quarter higher than in the like period of 1936) seems to have been partly for the purpose of adding to accumulated stocks, the upward trend of paper consumption continues; American advertising was 5 per cent greater during January in newspaper classification and fully 15 per cent more in periodical matter than in the corresponding month of last year. It is now an established fact that the Canadian newsprint mills are finding it difficult to meet the needs of publishers. An exceptional export demand for woodpulp has sprung up, shipments abroad in January being 5 per cent above those of the like month last year. Lumber exports from all Canadian ports were more than double those of January, 1936. Domestic trade in lumber is expanding slowly as the Home Improvement Plan for renovation and modernization of buildings is extended and as general construction increases."

Company Reports Favorable

In the annual report of Fraser Companies, Ltd., for the year ended December 31, K. S. MacLachlan, president, reports that the Restigouche pulp mill continued to operate at full capacity during the year, while a steady improvement in business was obtained for the pulp and paper mills at Edmonton, N. B., and Madawaska, Me., and for the lumber mills. Price levels strengthened during the year but on the average represented only a minor improvement over those obtained during 1935.

Consolidated operating earnings before interest, depletion, depreciation and income tax, amounted to $2,100,920, as compared with the 1935 figure of $1,827,624, and a 1932 loss of $243,955. These earnings provided a wider margin over reduced interest charges (covered 2.15 times before depletion and depreciation), and, after increasing depreciation provision by $280,812 and allowing for income tax, left a balance of $94,974 available for the capital stock in comparison to the net loss of $84,288 in the previous year, and in further contrast to the 1932 red figure of $2,316,422.

Restigouche Company, Ltd. reports operating earnings of $650,498 for the year ended December 31, 1936, against $612,835 for 1935. With net interest received of $2,875, total income of $653,373 was 2.06 times bond interest of $279,557 and interest on deferred bond interest of $38,096. After depletion, increased depreciation, and income tax, there was net income of $35,439 applicable to the common stock, all of which is owned by Fraser Companies. This net income contrasted with the 1935 net loss of $1,262.

A sharp gain in profits and further substantial improvement in liquid position is reported by Brompton Pulp and Paper Company for 1936.

Net operating profit after depletion amounted to $530,149 compared with $205,706 in 1935 after directors' fees and executive salaries. Total income was up over $322,000 at $536,929. Deductions included directors' fees, executives' salaries, legal fees, depreciation, subsidiary interest and tax reserve, after which net profit was $116,191 as against a deficit of $88,660 in 1935.

Oxford Paper's Earnings Rise

The Oxford Paper Company reports for 1936: Net income, $504,020, equal to $6.30 a share on preferred stock, compared with $60,749, or 73 cents a preferred share, earned in 1935.

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NEWTON UPPER FALLS • MASSACHUSETTS

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Philadelphia Holds Wall Paper Style Show

Exposition Scheduled for Four Days in Palm Room of the Bellevue-Stratford Hotel — First in Series to be Held in Six Cities — Event Sponsored by The Wall Paper Institute—Will Be Open to the Public Without Charge.

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., March 8, 1937—Decorators are today putting the finishing touches on the exhibits for Philadelphia's first Wall Paper Style Show which will open tomorrow morning (March 9) for four days in the Palm Room of the Bellevue-Stratford Hotel. It will be open to the public from 11 A. M. to 10 P. M. on those days. The Show is the first in a series of Wall Paper Shows that will be held in six major cities of the United States this spring under the sponsorship of the Wall Paper Institute in cooperation with leading wall paper dealers in the various cities, it is announced by the Institute. The first will be held in Philadelphia, followed by showings in Boston, Buffalo, Cleveland, Chicago and Kansas City. Each will run for four days and will be open to the public without charge.

The shows are described as the wall paper industry's first aggressive effort in some years to capitalize on increasing consumer demand for wall paper, and are believed to be the forerunner of a series of expanded merchandising and promotion effort by the industry and by individual companies. All phases of management and promotion of the Shows are in the hands of Roberts Everett Associates, Inc., of New York.

Says Ben S. Bostick, who is in charge of the Philadelphia exhibit: "The Wall Paper Style Shows of 1937 are an outgrowth of the first Wall Paper Exposition held last July at the Hotel Waldorf-Astoria in New York. The enormous public interest in wall paper manifested at that display determined the Institute to extend the showing to oher cities. Departing from the usual type of exposition, the Wall Paper Style Shows will be divided into two major sections. One will be devoted entirely to an institutional presentation of wall paper in use, with completely decorated and furnished rooms of homes simulated. A total of twenty-one rooms, from the basement to the attic, will be included in this exhibit in which accepted modern methods of employing wall paper will be exemplified, together with displays of new styles and new uses of wall paper and an historical exhibit. It will present new designs and novel color effects of recent years which have brought about a greatly increasing acceptance of wall paper. In the other section, local wall paper dealers who are participating in the shows in each city will present their lines."

The benevolent ghosts of Titian and Gainsborough and Angelo and di Vinci probably will be hovering happily near to observe how far the art of designing and the manufacture of wall paper has gone since they designed and executed wall decorations. For all of the great mural painters and many of the great artists turned at one time or another to designing and painting wall coverings of paper and fabrics, and examples of their work are carefully guarded treasures in great museums and collections in many parts of the world.

Origin of Wall Paper

The origin of wall paper is lost in antiquity, but, like gun powder and roast pork and even paper itself, wall paper is believed to have originated in China. In the sixteenth and seventeenth centuries it was a rarity in Europe and was employed as an inexpensive substitute for the luxurious wall coverings of brocade and tapestry and velvet. And at that, it was only slightly less expensive than fabrics because it had to be imported from the Orient by caravan and haggled over in bazaars and market places. Even putting it on the walls was a task for, unlike the rolls with continuous matching designs, as we know wall paper today, it was manufactured in sheets smaller than a tabloid newspaper, and each small sheet had to be handled separately.

Not until 1688 were continuous matching designs made possible by an enterprising and neurotic Frenchman with a penchant for orderliness, Jean Papillon. Annoyed by overlapping ends and sloppy finishing, M. Papillon applied a little care to the manufacture of his wall paper and the result was evenly matched and continuous designs. The colors still were applied separately with a brush after the design had been laboriously printed on the paper from wood blocks in the crude printing presses of the period, but the paper showed a vast improvement over previous cockeyed patterns.

Wall paper today is printed in continuous strips on hand made rollers in huge rotary presses capable of printing twenty-five or more colors in one operation. A strip from a 250-pound roll of paper goes into the presses at one end and comes out at the other a roll of wall paper, automatically cut and ready to be packed into bundles. The average wall paper has about eight different colors and the eight rollers have to work perfectly, individually and together.

Officers of Institute

Among the officers of the Wall Paper Institute are Louis H. Chase, president, who is also an officer of Becker Smith & Page Company, Inc., Philadelphia wall paper manufacturing company, and J. A. Seguine, formerly a partner in Asam Brothers, Inc., and now associated with a wall paper manufacturing company in Worcester, Mass. The chairman of Philadelphia's inaugural Wall Paper Style Show is Henry H. Allman, president of Kayser & Allman, 1709 Walnut street. Other local dealers participating in the show include: Asam Brothers, Inc., William K. Grauer's Sons Company, Frank H. Hodgson, Inc., John A. Lindsay & Son Company, D. Schultz, Inc., John E. Whitwell, Inc., Morris Brenner & Son and John H. McClatchy.

William A. Menk Dead

Ill for several months, William A. Menk, aged 63, for the last thirty years an employee of Thos. W. Price Company, died at his home, 121 South Fifth street, Darby, last week, of a heart ailment. He had been a resident of Darby for the last thirty-five years.

Surviving are his wife, Mrs. Rose Heckert Menk; a son, Howard H., of Audubon, N. J.; and a brother, Charles Menk, of Collingdale, Pa. Funeral services were held at his home at 2 P. M. on Thursday. Burial was in Arlington Cemetery, Delaware County.

Dennison Declares Dividend

Dennison Manufacturing Company, Framingham, Mass., announces an accumulation dividend of $2 a share on the 8 per cent debenture stock, payable May 1 to stock of record April 20, leaving arrears of $2 a share. On February 1 a like amount was paid.

Obituary

Otto P. Schlafer

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., March 1, 1937—Otto P. Schlafer, pioneer business man of Appleton, Wis., died of heart disease February 23 at Orangeburg, S. C., while returning from a trip of several weeks to Mexico, Central America and Florida. He had been joined by his son Wilmer, and they had planned to return by automobile. He was in apparent good health when he retired earlier in the evening.

Mr. Schlafer was president of the Schlafer Supply Company, which for more than fifty years has dealt in paper mill supplies, and of Schlafer, Inc., formerly Schlafer Hardware Company, one of the largest retail concerns in that line in the Fox River Valley. He also was president of the Wisconsin Wire Works of Appleton. In addition, he was one of the organizers of the Hardware Dealers Mutual Fire Insurance Company and the Hardware Mutual Casualty Company of Stevens Point, Wis., serving continuously as president of both until four years ago, when he was elected chairman of the board.

Born in Germany April 21, 1858, Mr. Schlafer was 78 years old at the time of his death. He came to Appleton in 1876, starting as a hardware clerk. He acquired an interest in a hardware store in 1879, and has been a leader in this and the mill supply field ever since. He was also a director of the First National Bank of Appleton, and prominent in the Y. M. C. A., the First Methodist Episcopal Church, the Masonic Lodge and the Rotary Club.

Survivors are his son, Wilmer, and two daughters, Mrs. Margaret De Long and Mrs. Karl Haugen, both of Appleton. Funeral services were held Monday of this week at the Methodist Church and burial was made in Riverside Cemetery at Appleton.

James M. Cox

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, March 8, 1937.—James M. Cox, 74 years old, of Hamilton (Millville), died recently of pneumonia. He was born in Hamilton, January 1, 1863. For 36 years he was an employee of the Black-Clawson Company, manufacturers of paper mill machinery, and was familiar with machine work in all its phases. However, since 1931 he had served the company as a watchman.

Besides his widow, Katie, he is survived by one brother, William Cox, of Hamilton; and one sister, Mrs. Chris Klapper. A son, James C. Cox, died in 1918.

Charles Henry Wilson

[FROM OUR REGULAR CORRESPONDENT]

SPRINGFIELD, Mass., March 9, 1937.—One of the last of the veteran papermakers died last week in this city, Charles Henry Wilson, aged 92, a veteran of the Civil War, who retired in 1915 after fifty years employment in paper mills in North Wilbraham, Holyoke and Hartford. He was millwright in the Riverside paper mills in Holyoke, the Collins Manufacturing Company at North Wilbraham and Newton-Robinson Company at Hartford.

Wilfred S. McCloskey

[FROM OUR REGULAR CORRESPONDENT]

BANGOR, Me., March 8, 1937.—Wilfred S. McCloskey, of the Advance Bag and Paper Company died recently. The passing of Mr. McCloskey, at the age of 48 is most deeply deplored as an untimely end of a successful and useful life of industry, achievement and integrity. He was born at Katahdin Iron Works and began as office boy at the Howland mill when twelve years old. Starting work in the wet room when sixteen he worked up to the head of the department by his own efforts and ability.

When the first paper machine was installed in 1903 he began as oiler and cleaner, advancing to head machine tender with twelve years of practical experience. In 1920 he was made superintendent of the Howland mill which position he held at the time of his death, well-earned by heart-interest in everything that pertained to the position and for the confidence of his employers.

Edward K. Shelmerdine

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., March 8, 1937.—Edward K. Shelmerdine, 3rd, former president of the West Jersey Paper Company, of Camden, and member of a well-known Philadelphia family, died recently at Fort Lauderdale, Fla., where he was spending the Winter.

Mr. Shelmerdine was a graduate of Swarthmore College. He was a member of the Phi Delta Theta social college fraternity. He retired from the paper business several years ago.

He leaves a son, Edward K. Shelmerdine, 4th, and a daughter, Patricia Shelmerdine.

Joseph Leap, Sr.

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, March 8, 1937.—Joseph Leap, Sr., 66 years old, of 1728 Germantown Road, Middletown, died recently of pneumonia, which he contracted one week before his demise. He had been a resident of Middletown and vicinity for 44 years and formerly was employed in the paper mills there. Surviving are his widow, Elizabeth; one daughter, three sons; three grandchildren and two brothers.

St. Regis Paper Machine Resumes

[FROM OUR REGULAR CORRESPONDENT]

NORFOLK, N. Y., March 8, 1937—Resumption of operations on a paper machine at the local branch of the St. Regis Paper Company took place last week. The machine has been shut down since January 1936 because of insufficient orders. Orders for paper are understood to have been increasing rapidly during the past few months which resulted in the decision to start the other machine. It is said that about thirty more workers will be placed at work as a result of the increased activity. Other evidence of improvement is the starting up of the sulphite plant of the concern which has been idle for nearly three years. The task of revamping the sulphite plant, now under way, will involve over $50,000 and it is hoped that all will be ready for capacity operations about the middle of May. About 50 hands will be employed.

New Brown Flow Meter Catalog

The Brown Instrument Company, Philadelphia, Pa., has just published a new catalog on Brown Flow Meters. This new Catalog (No. 2004) covers the complete line of Brown Flow Meters—Indicating, Recording and Integrating—in both Electrical and Mechanical Types—together with Brown Air-o-Line Flow and Liquid Level Controllers. It explains their application to Power Plant, Water Works and Gas Generation service, as well as to general industrial use. Copies of this catalog may be obtained upon application.

Port Mellon Plant Ships First Pulp

[FROM OUR REGULAR CORRESPONDENT]

VANCOUVER, B. C., March 6, 1937—The first shipment of kraft pulp to go from the plant of the Port Mellon Operating Company at Port Mellon, B. C., was recently made. The shipment marked start of production for the plant, which was constructed in 1929 but never operated owing to the collapse of the pulp market immediately following its completion.

Originally operated as the Vancouver Kraft Company, the organization underwent extensive litigation following completion of its plant, and trustees for the bondholders sought an order to wind up the company.

The plant has now been taken over by F. W. Leadbetter and his associates, and is operating as the Port Mellon Operating Company, with C. J. Packingham in charge of operations at Port Mellon.

Interviewed at Vancouver, Mr. Leadbetter, president of the company, who established offices in that city recently, stated that while his plant is not in full production as yet, there are no serious obstacles in the way and shipments will go forward without interruption. The plant will concentrate for the time being on the manufacture of kraft pulp, a large proportion of the output to go to the Leadbetter mills in the United States, and a considerable tonnage to go to Japan.

The mill now in operation at Port Mellon represents an expenditure of some $2,500,000, which includes the early investment on the sawmill some years ago. The new company has been largely financed by British money, chiefly by Kleinworth & Co., London bankers.

The pulp mill is operating on a basis of 80 tons a day, four German-made digesters similar in design to those in use at Pacific Mills, Ltd., Ocean Falls, B. C., being in use. A capacity of 100,000 feet will be attained in the sawmill when it is put in full operation, but Mr. Leadbetter points out that this will not be attained until later in the year. Approximately 150 men are on the payroll.

The company has no intention of conducting its own woods operations, and will purchase its pulpwood in the open market. In Mr. Leadbetter's opinion this arrangement will offer no difficulty, and an adequate supply will be assured.

The plant is entirely dependent on its waterfront location for transportation facilities, having no access to railroads, but the facilities at its disposal are regarded as valuable and will be used to the utmost in development of an overseas market.

Association Activities In Boston

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., March 8, 1937—The following have been appointed members of committees of the New England Paper Merchants Association by President Frank H. Winter:

Credit Control Arbitration Committee: P. B. Nichols, chairman, William Ross, Sr., and Harold Jefferson.

Paper Distributors Cost Finding Committee: Harry J. Dowd, chairman, Samuel L. Ginsburg, Floyd H. Blackman, John Roach, Robert M. Stone, Streeter L. Bush and D. F. Munroe.

Members of committees of the Wrapping Paper Division have been appointed as follows: Governing, Floyd H. Blackman, D. F. Munroe Company, Boston; Bag, Samuel L. Ginsburg, Ginsburg Bros., Cambridge; Wrapping Paper, Harry J. Dowd, H. J. Dowd Company, Inc., Cambridge; Gummed Tape, Streeter L. Bush, Carter, Rice & Co., Corp., Boston; Tissue, Robert M. Stone, Stone & Forsyth Company, Boston; Specialties, H. R. Robinson, C. H. Robinson Company, Portland, Me.; Merchandising, John R. Halkyard, Providence Paper Company, Providence, R. I.; Twine, John H. Blackman, D. F. Munroe Company, Boston; Traffic, H. A. Hurlbert, Hurlbert & Hatfield, Boston. The above officers are also members of the Commodity Committees of the National Paper Trade Association.

A luncheon meeting of the Paper Merchants Cost Finding Service group is to be held Tuesday, March 9, at the Boston Chamber of Commerce. Current market conditions in regard to kraft and other important commodities are to be discussed.

The local members of the Fine Paper Division of the New England Paper Merchants Association are to hold a meeting at the Chamber of Commerce Wednesday, March 10.

The Fifty-first Anniversary Banquet of the Boston Paper Trade Association is to be held March 17 at the Algonquin Club. His Excellency Governor Charles F. Hurley, is to be the guest of honor and Alton Hall Blackington, the guest speaker. Mr. Blackington is to give an illustrated lecture on "The Romance of News Gathering."

New Lightweight Welder

To supplement their line of portable arc welders, the Miller Electric Manufacturing Company, Appleton, Wis., has brought out a lighter weight, low priced transformer type welder under the trade name "Miller Standard Arc", in four models of capacities from 130 to 300 amperes. Equipped with rotary knife switch control with amperage marked for each welding step, these welders have the same efficiency as the regular Miller welders, the manufacturer states. They are lighter in weight only because the cabinet is wood and there are less amperage controls than the regular welders. They are specially designed transformer type without reactance control or sheet metal attachment. Safe and easy to operate, they can be used for welding on grounded surfaces without danger to the operator, as they are not "auto" transformer type welders. In price they range from $90.00 to $220, according to the model.

Joins M. S. Alper & Son

Norman A. Alper, assistant sales promotion manager of the Equitable Paper Bag Company, Brooklyn, N. Y., and the Orange Pulp and Paper Mills, Orange, Tex., has announced his resignation. He will join M. S. Alper & Son, Inc., paper manufacturers supplies, of Providence, R. I.

Mr. Alper was graduated from Lehigh University in 1934 and is a grandson of the late M. S. Alper & Son, Inc. founder of M. S. Alper & Son.

R. W. Crane Joins New York Belting

Robert W. Crane has joined the sales organization of the New York Belting and Packing Company, of Passaic, N. J., and will make his headquarters in Buffalo, N. Y. From this point he will cover New York State west of the Hudson River and Northern Pennsylvania.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Carthage, Ind.—The Container Corporation of America, Inc., manufacturer of corrugated paper boxes and containers, straw and chip board, etc., has approved plans for new addition to local plant, to be one-story and basement, estimated to cost close to $225,000, including equipment. General contract has been let to the H. M. Wilson Company, Eighteenth and Brandywine streets, Philadelphia, Pa., and work will be placed under way at early date.

Indianapolis, Ind.—The Bowers Envelope and Lithograph Company, 941 West Michigan avenue, manufacturer of commercial envelopes and kindred paper products, has filed plans for new one-story addition to plant, for which superstructure will begin soon. It will cost close to $25,000, including equipment.

Meridian, Ga.—The Union Bag and Paper Corporation, Woolworth Building, New York, N. Y., plans new wharf and ramp on the Sapelo River, near Meridian, to be used for pulp wood shipments for new paper and pulp mill at Savannah, Ga., and proposes to begin work early in the spring. Application has been made to the War Department, Washington, D. C., for permission for structure. Mechanical-handling facilities will be provided.

Shelton, Wash.—The Rainier Pulp and Paper Company, manufacturer of bleached sulphite fiber products, has approved plans for new addition to mill, to be one-story, 100 x 200 feet. It will be equipped as a chipping unit, with facilities for a capacity of 25,000 feet per hour. New structure is reported to cost over $75,000, with machinery. General erection contract has been awarded to F. W. Horscottie, Shelton.

New Haven, Conn.—The New Haven Pulp and Board Company, East street, manufacturer of coated and other paper board products, chip board, etc., has awarded general contract to the H. Wales Lines Company, 134 State street, Meriden, Conn., for new addition to power house at mill, recently referred to in these columns, to be 65 x 132 feet. Superstructure will be placed under way at once. The Bigelow Company, 92 River street, New Haven, has the award for boiler unit and orders for miscellaneous equipment to be installed are being placed. Company has also awarded erection contract to the New England Iron Works, Inc., 1351 Dixwell avenue, Hamden, Conn., for new one-story mill addition, 80 x 80 feet, to be used primarily for storage and distributing service. Entire project will cost close to $250,000, including equipment. Frederick L. Smith, 21 East Fortieth street, New York, N. Y., is architect.

Los Angeles, Cal.—The Pioneer-Flintkote Company, 5500 South Alemeda street, Vernon, Los Angeles, manufacturer of roofing and building papers, a unit of the Flintkote Company, 50 West Fiftieth street, New York, N. Y., is beginning construction of additional buildings at local mill, in connection with expansion and improvement program, previously referred to in these columns, to provide for large increased capacity. The project will require a number of months for completion. Work will comprise five new plant units, in all, consisting of a new paper mill, paper stock preparation building, new plant unit for the production of corrugated paper containers, and additions to the present chip board and boxboard mill and present beater plant, respectively. All of the structures will be of steel, concrete and brick type. The paper mill will be one-story and basement, totaling about 26,100 square feet of floor space, and will be equipped for production of folding boxboard materials and corrugated test liners; the paper stock preparation building similarly will be one-story, aggregating 10,400 square feet of floor space, and will be equipped with breaker beaters, disintegrator pumps, pulper-refiner units and complete auxiliary equipment; the plant unit for corrugated container manufacture will be L-shaped, sawtooth roof construction, 78 x 244 feet, and 44 x 244 feet, respectively, the larger section to be used for manufacturing service, equipped with modern machinery for large capacity, and the smaller portion for paper roll storage and distribution; the additions to the chip board and box board mill and beater plant will be of one-story type nd used largely for storage and distribution, the structures total about 25,400 square feet on floor area. Entire project is estimated to cost approximately $1,000,000, including buildings and equipment. Edward C. and Ellis W. Taylor, 803 West Third street, Los Angeles, are architects. L. M. Simpson is vice-president and general manager.

Kinston, N. C.—The Old Dominion Box Company, Ninth street, Lynchburg, Va., manufacturer of folding paper boxes and containers, has begun operations at new branch plant at Kinston, recently established, and will give employment to an initial working force of about 35 persons.

Westport, Conn.—Connecticut Fibre Board Company, Inc., recently organized to operate a mill in this vicinity for the production of fiber board specialties, has elected officers of company and will proceed with operations at early date. Rudolph Stern, Bridgeport, Conn., is president and treasurer; Louis Stern, Bridgeport, is vice-president; and George Stern, New York, N. Y., secretary.

Albany, N. Y.—The A.P.W. Paper Company, 1273 Broadway, manufacturer of tissue paper stocks, has approved plans for new one-story addition to mill on Bridge street, estimated to cost about $45,000, including equipment. It will be used primarily for storage and distributing service. General erection contract has been let to J. P. Sewell, 372 Hudson avenue, Albany, and work is scheduled to begin soon.

Watervliet, N. Y.—The Behr-Manning Corporation, Sidford street, Troy, N. Y., manufacturer of abrasive

papers and kindred materials, has awarded general contract to the Morton C. Tuttle Company, Park Square Building, Boston, Mass., for new one-story addition to mill at Watervliet. It is estimated to cost close to $60,000 with equipment. Superstructure will be placed under way at once.

Monroe, Mich.—The Consolidated Paper Company is considering installation of new sewage disposal plant at local mill. No estimate of cost has been announced. Work is expected to begin this spring.

Nipigon, Ont.—The Lake Sulphide Pulp Company, Nipigon, recently organized, has plans under way for new mill on local site for production of bleached sulphite pulp. Plant will consist of several large one and multi-story units, with machine shop, power house and other mechanical departments. It is estimated to cost in excess of $1,500,000, with equipment. Proposed to begin work in the spring.

Toronto, Ont.—In connection with the acquisition of mill at Toronto of Canadian Paperboard, Ltd., by the Gair Company of Canada, Ltd., Toronto, recently referred to in these columns, other mills of the first noted company will be taken over as well by the Gair company, including those at Montreal, Campbellford and Frankford, leased by the last noted company in 1934, and since operated under such management. New owner will develop the different properties for large output. George W. Brown is vice-president and general manager.

New Companies, Etc.

New York, N. Y.—The Aetna Corrugated Products Corporation has been organized with capital of $20,000, to manufacture and deal in corrugated boxes and containers, corrugated board specialties, etc. New company is represented by Robert Stillman, 285 Madison avenue, New York.

Chicago, Ill.—The Barson Metal and Paper Stock Company, Inc., 869 North Orleans street, has been chartered with capital of 100 shares of stock, no par value, to deal in waste paper goods, etc. The incorporators include Harry H. Bloom and Max Schwimmer.

New York, N. Y.—The Hudson Bag Company, 244 South street, manufacturer of paper bags and containers, has filed notice of increase in capital from 1000 to 10,000 shares of stock, no par value.

Detroit, Mich.—The Yankee Fiber Tile Sales Corporation has been incorporated with capital of 25,000 shares of stock, no par value, to manufacture and deal in fiber products. Joseph B. Pospeshil, 51 Selden avenue, Detroit, is principal incorporator and representative.

New De Laval Catalog

Motor-Mounted pumps are described in a catalog issued by the De Laval Steam Turbine Company, Trenton, N. J. This term is used to designate a unit consisting of a centrifugal pump mounted directly upon the frame of an electric motor to form a compact, self-aligned unit with only one shaft and two bearings.

The unit does not require a special foundation or subbase, but can be attached to whatever support is most convenient, such as column, floor, wall or ceiling, and in any position, as upside down or with the shaft vertical. Also, it may be placed upon a hand truck or suspended from a sling, for portable use.

Dimensions and other details are given for pumps of capacities from 5 to 1200 gallons per minute and for heads from 10 to 230 ft., as also pipe friction tables and instructions for selecting and installing pump units. The motor may be of the open, slash-proof, totally enclosed, or explosion-proof type, for direct or alternating current.

J. L. Fearing Recuperating

J. L. Fearing, vice-president of International Paper Company, who has been ill for some time at the New England Baptist Hospital in Boston, is now well on the road to recovery. He plans to return to his home in Greenwich, Conn., within a few days to recuperate before returning to his office.

J. L. FEARING

Mr. Fearing has been an outstanding figure in the paper industry for many years and his large number of friends will be happy to learn of his return to good health.

New Haering Catalog Out

D. W. Haering & Co., Inc., of 3408 West Monroe street, Chicago, Ill., announce a new twenty-four page illustrated catalog describing the operation and application of proportioning equipment.

This booklet is an entirely new edition of "The Art of Proportioning" and explains the use of the Haering Fluid Piston Principle including detailed descriptions of the new Model "B" Junior and Model "B" Twin feeders.

The construction, operation and application of a variety of proportioning feeders are described along with photographs of installations. The use of pitot tubes, fluid pistons and proportioning of various chemicals is discussed in detail.

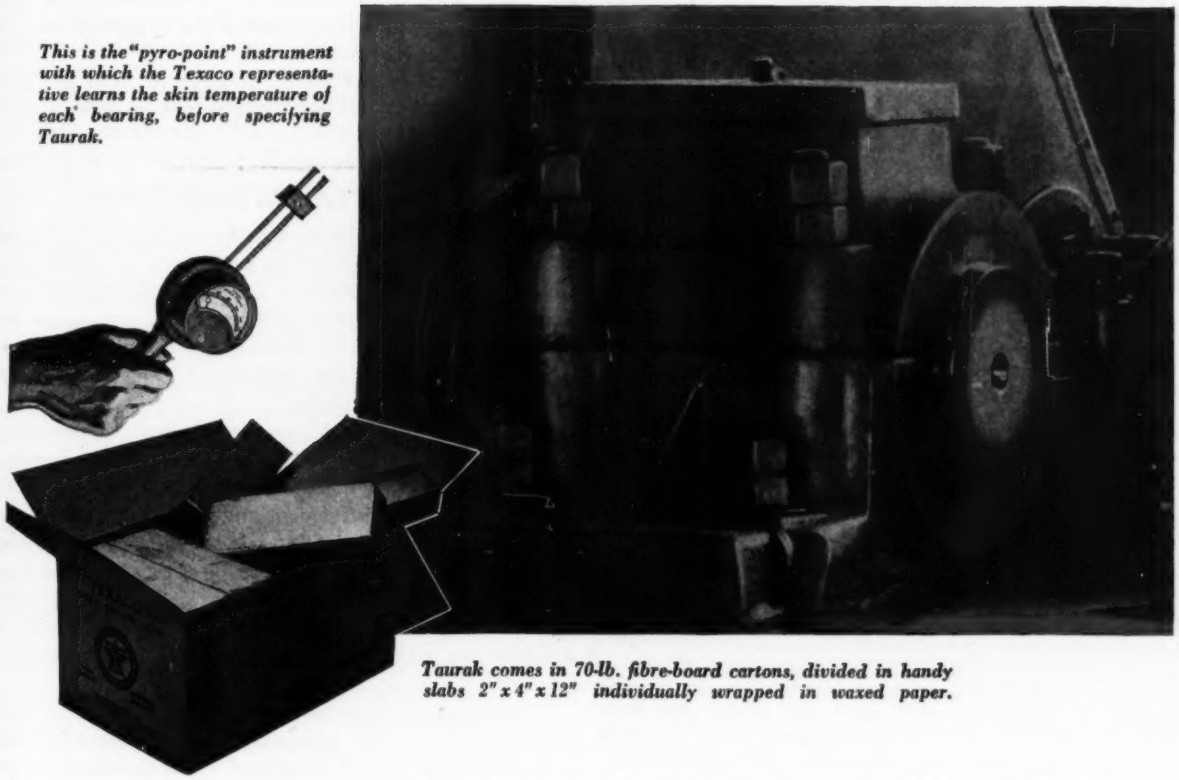
All of the material in former editions has been revised and brought up to date. Complete practical information on proportioning is available in this new catalog.

New G-E Rotating-Cam Switches

A new line of rotating-cam switches, designed especially for built-in control applications and adaptable to a variety of electrical functions and machine requirements, has recently been placed on the market by the General Electric Company, Schenectady, N. Y. For non-built-in applications, the devices are available as standard switches without the flanges used for flush-mounting on machines.

Designated as G-E CR3300 rotating-cam switches, the new line is manufactured in a number of electrical and mechanical modifications making it universally adaptable to applications varying from machine-tool motor control to steel-mill master switching.

THIS Stops overheating



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COMING EVENTS IN THE PAPER INDUSTRY

NEW ENGLAND SECTION, Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Nonotuck Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION, Technical Association of the Pulp and Paper Industry—Fourth Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION, Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION, Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park-American Hotel, Kalamazoo, Mich.

AMERICAN PULP AND PAPER MILL SUPERINTENDENTS ASSOCIATION, Annual Meeting, Springfield, Mass., June 23-25.

EXPORTS AND IMPORTS

Exports of paper base stocks during the year 1936 aggregated $11,984,251 as against $9,890,499 for 1935, representing an increase of 21.2 per cent, according to the Forest Products Division of the Department of Commerce. Sulphite pulp, bleached and unbleached, gained 26.2 per cent in 1936 compared with 1935 exports. During 1936, 119,528 tons of bleached sulphite and 68,043 tons of unbleached sulphite were exported. This figure gives bleached sulphite a 36.3 per cent lead over unbleached sulphite.

Paper and paper products totalled $22,460,542 during 1936 and $20,519,220 in 1935, or a gain of 9.5 per cent. Losses were registered in newsprint, book, cover, old and overissues, bristols and bristol board, other paper board, wall board, and envelopes during the year 1936 as compared with 1935 figures. All other paper and paper products showed gains sufficient to bring the total value nearly 10 per cent above 1935. Newsprint showed a loss of 35.2 compared with 1935, old and overissues decreased 17.0 per cent, bristol boards 21.4 per cent and other paper boards 12.7 per cent.

Imports of paper base stocks, including pulpwood, wood pulp, rags and all other pulp, for the year 1936 were valued at $98,919,594 as compared with $82,043,697 for 1935. Of this total amount, $9,481,914 was pulpwood; $82,836,228 wood pulp; $54,772 all other wood pulp; $4,673,041 rags for paper stock and; $1,873,639 all other paper stock, during 1936 as against $7,760,700 pulpwood; $70,734,847 wood pulp; $26,074 all other wood pulp; $2,411,424 rags for paper stock; $1,110,652 all other paper stock, for the year 1935.

Total imports of 1936 paper base stocks represent a gain of 20.6 per cent over 1935. A small gain was noted in the total amount of pulpwood during 1936 compared with 1935, there being 1,209,760 cords and 1,037,332 cords imported respectively. Likewise, wood pulp imports totaling 2,277,500 tons in 1936 gained over the total amount 1,933,249 tons during 1935 by 17.8 per cent. These gains in wood pulp were general, no particular class showing any outstanding increase in comparison with 1935.

Imports of paper and manufacturers during 1936 totalled $110,112,348 as compared with $93,443,916 for 1935. Of this amount, newsprint represented 87.8 per cent during 1936 and 88.0 per cent for the year 1935. 2,751,580 tons of newsprint were imported during 1936 as compared with 2,383,315 tons in the preceding year, or a gain of 15.4 per cent.

All other paper totalled $13,392,878 in 1936 and $11,178,649 in 1935, or a 19.8 per cent gain in 1936 as compared with 1935.

BETTER LABOR RELATIONS

Pointing out that only the sensational, controversial issues of employment relations get before the public, William B. Warner, president of the National Association of Manufacturers, in a special bulletin to members, urges that they use every effort to show the constant attempts of employers to improve the conditions of employees and to keep harmony within plants.

Simultaneously Mr. Warner transmitted to members a special report of the Committee on Employment Relations of the association urging the promotion of a wider understanding between management and workers on all matters of relations and common interest. This report, covering a year's intensive study of the problem lists "practices and procedures" which it says merit careful study but warns against taking these procedures as "standards" suitable or desirable for all companies, since some of them may not fit the conditions in individual companies.

"Relationships between employers and employees are best worked out in a harmonious atmosphere of mutual understanding," Mr. Warner said in his bulletin to members. "An employee is interested in steady work and a full pay envelope. An employer is interested in maintaining satisfactory conditions within his plant and avoiding interruptions in operations and heavy labor turnovers which burdens the cost of production.

"Millions of employees and hundreds of thousands of employers operate daily in such an atmosphere, with any controversies settled amicably. Disputes are the exception rather than the rule, and yet it is the relatively few disagreements that are continually presented to the public as the picture of employment relations.

"We should therefore bend our efforts toward presenting the true picture to the public so that sensational, controversial issues will not discolor the whole scene."

The report of the Employment Relations Committee

pointed out that "interruptions in production due to labor difficulties are frequently caused by the lack of proper provisions in an organization by means of which a sufficient understanding of the problems of management and men can be mutually arrived at, causes of complaint removed, and misunderstandings avoided."

No specific plan, formula or procedure, the committee said, can satisfactorily meet all the varying conditions and problems of different plants in different industries.

"But," the report added, "we believe that satisfactory relations between management and employees will result from the application of the following fundamental principles:

"1. A mutual respect and consideration by each for the problems and viewpoints of the other.

"2. Promotion of the widest understanding that the greatest measure of well being for both employers and employees and maximum possibility of obtaining the full economic value of their services lie in the development of the common enterprise in which they are engaged.

"3. Free interchange of ideas between management and employees in all matters and company policies of mutual interest, such as wages, hours and conditions of employment.

"4. Opportunity should exist in each plant for the consideration and adjustment of all complaints, and for appeal to the highest executives.

"5. Development by each company of a sound and well defined employment policy."

The report also contains suggestions of policy on wages, hours, working conditions, promotion, hiring, protection against risks, stabilizing employment and earnings and several other points involved in a satisfactory employment relations policy.

In a letter transmitting the report to members of the association, William B. Warner, President, pointed out that the committee's study was aided by the advice of outstanding labor relations experts in the country.

American Writing Reconstruction

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., March 9, 1937—The rebuilding of the American Writing Paper Company, Inc., under its new management, headed by Thomas H. Blodgett, is progressing steadily. The new group is represented by Peter Friedman, in whose hands the reorganization work is being carried. Mr. Friedman told your correspondent that the detailed plans and their workings would take several weeks yet. "Meantime," said Mr. Friedman, "the employees are being directed as though the reconstruction had actually taken place."

New Metalizing Catalog

The Metallizing Company., of America, Inc., with general offices at 1351 East 17th Street, Los Angeles, Cal., has just prepared a 36-page booklet which is a complete photographic story of the metal spraying process.

This booklet covers thousands of applications in which Metallizing has proven its worth and will be received with interest by those concerned with lowering maintenance costs. A copy may be had by writing the manufacturer.

Production Ratio Report

The following statistics are based upon paper production reports to the American Paper and Pulp Association:

COMPARATIVE MONTHLY SUMMARIES

Months	1937	1936	1935	1934
January	90.3% (c)	76.1%	65.8%	.....
February	.....	77.9%	70.0%	.....
March	.....	76.0%	70.5%	.....
April	.....	82.3%	70.0%	.....
May	.....	81.6%	69.4%	.....
June	.....	80.7%	72.3%	.....
July	.....	77.3%	64.9%	.....
August	.....	81.5%	70.9%	.....
September	.....	80.5%	71.9%	58.2%
October	.....	87.6%	75.6%	64.7%
November	.....	88.0%	75.3%	61.7%
December	.....	85.9%	71.2%	59.6%
Year Average	.....	81.3%	70.5%	.....
Year to Date First 8 weeks	90.3% (c)	76.7%	67.3%	.....

COMPARATIVE WEEKLY SUMMARIES

CURRENT WEEKS, 1937		CORRESPONDING WEEKS, 1936	
*February 6	88.1% (c)	February 8	77.5%
*February 13	89.5% (c)	February 15	77.0%
*February 20	90.7% (c)	February 22	78.5%
*February 27	93.6% (c)	February 29	78.7%

The following statistics show the number of mills reporting by ratio groups:

	Number of Mills Reporting, Current Weeks			
Ratio Limits	Feb. 6, 1937	Feb. 13, 1937	Feb. 20, 1937	Feb. 27, 1937
0% to 50%	48	36	36	25
51% to 100%	267	279	272	188
Total Mills Reporting	315	315	308	213

* Subject to revision until all reports are received.
(c) Basic capacity data have been adjusted to correspond with ratings reported on January 4, 1937 Machine Improvement Survey.

PAPERBOARD OPERATING RATIOS

According to reports from the National Paperboard Association, per cents of operation, based on "Inch-Hours," were as follows:

Months	1936	1935	1934	Months	1936	1935	1934
January	61%	61%	....	July	69%	59%	....
February	67%	67%	....	August	75%	65%	....
March	68%	67%	....	September	76%	69%	62%
April	70%	61%	....	October	82%	76%	63%
May	68%	61%	....	November	79%	70%	56%
June	68%	65%	....	December	74%	60%	52%

Week ending Jan. 9, 1937—77%
Week ending Jan. 16, 1937—79%
Week ending Jan. 23, 1937—82%
Week ending Jan. 30, 1937—81%
Week ending Feb. 6, 1937—86%
Week ending Feb. 13, 1937—86%
Week ending Feb. 20, 1937—85%
Week ending Feb. 27, 1937—86%

Powell River Wages Increased

VANCOUVER, B. C., March 6, 1937—A general increase in salaries and wages approximating 5 per cent, and affecting about 1,600 employees of Powell River Company at Powell River, B. C., has been announced by Resident Manager D. A. Evans. The raise goes into effect March 1.

In his announcement, which strikes an optimistic note in the newsprint industry, Mr. Evans said:

"Our directors, after reviewing developments during January, consider that sufficient improvement is now evidenced to warrant reinstatement of a further part of reductions made during the depression period."

They had previously intimated that when business conditions warranted wages of all employees would be increased.

James Whiting with Collins Mfg. Co.

HOLYOKE, Mass., March 9, 1937—James Whiting, of this city, son of the late Samuel Raynor Whiting and grandson of William Whiting, who founded the Whiting Paper Company, is now connected with the Collins Manufacturing Company, of North Wilbraham, the mills formerly operated by his father. Mr. Whiting, who has been a student at Dartmouth College, is the youngest of the family.

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SULPHATE OF ALUMINA—Produced from Bauxite mined in our own deposits in Georgia, Arkansas and South America.

SIZING MATERIALS—Liquid Rosin Size in tank cars and drums, Dry Size in bags, Alwax and Waxine Sizes in drums.

CASEIN — Made with up-to-date equipment that insures the high speeds so essential in securing uniform high quality.

American Cyanamid & Chemical Corporation

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Section of the

Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

Delaware TAPPI Discusses the Fourdrinier

The Delaware Valley Section of the Technical Association of the Pulp and Paper Industry closed a week of TAPPI activities with its regular sectional meeting at the Engineers Club, Friday, February 26. Seventy-five were served dinner after which Dr. Schwalbe, the chairman, called on H. P. Cannon, past chairman and now situated in New York State, for a few remarks. Mr. Maull recently re-elected vice-president of TAPPI also gave a brief talk on the aim to serve which guides the National Association.

H. G. McDowell of Pusey & Jones Company of Wilmington, Del., then presented an excellent paper on the development of the Fourdrinier paper machine. He ably covered the historical points from the time of the original patents up to the present time. The changing ideas as to types of construction, speeds, and theories of formation were discussed from an engineering and paper making viewpoint. The effects of these ideas on the present day machines are evidenced by the suction couch rolls, adjustable shakes and removable Fourdrinier parts, and by the tendencies for increased speeds on all types of paper.

The discussion that followed Mr. McDowell's paper was lively and interesting. Pertinent points were brought out which had been discussed at the Canadian Meeting as well as the New York Meeting.

At the close of this discussion "The Application of Colloid Chemistry to Paper Making" was announced as the subject of the March Meeting.

Those Who Attended

Among those present were:

J. D. Andrews and R. A. Smart, Automatic Temperature Control Company, Philadelphia, Pa.; R. E. Aiman, Norristown, Pa.; Harvey Cannon, The Upson Company, Lockport, N. Y.; M. Middleton, SKF Industries, Inc., Philadelphia; Alex. McInnes, Jr., H. G. McDowell, Harrison J. Tana and Samuel M. Bratton, Pusey & Jones Corporation, Wilmington, Del.

Paul S. Billington and Dr. C. E. Curran, Forest Products Laboratory, Madison, Wis.; J. Edge, E. T. Street, Claude J. Ryder, Walter E. Snyder and H. A. Norseen, Downington Manufacturing Company, Downingtown, Pa.; J. Roslund, C. J. Kern, and Frank F. Schrier, The Moore & White Co., Philadelphia; H. F. Hoffmann and George B. Martin, General Dyestuff Corporation, Philadelphia; Patrick J. Kallaher, Leroy Benge, National Vulcanized Fibre Company, Yorklyn, Del.

W. A. Marrs, National Vulcanized Fibre Company, Newark, Del.; J. F. Ohlson and G. E. Landt, Continental-Diamond Fibre Company, Bridgeport, Pa.; P. H. Moyer and Ed Heckman, The B. F. Goodrich Company, Philadelphia; W. E. Brow, Edw. R. Feicht, T. P. Field, J. F. Halladay, Samuel D. Reynolds, Walter P. Quinn, T. B. McConnell and William Marble, Container Corporation of America, Philadelphia, Pa.

Henry C. Speel, Atlas Powder Company, Wilmington, Del.; P. D. Bradley, and R. E. Bare, Elk Paper Manufacturing Company, Childs, Md.; Ivan G. Johanson and G. H. Johanson, Automatic Temperature Control Company, Philadelphia; R. B. Brown, Leonia, N. J.; H. L. Becher, Agasote Millboard Company, Trenton, N. J.

William R. Maull, Dill & Collins, Philadelphia; John N. Tuttle, Glassine Paper Company, West Conshohocken, Pa.; Leslie Justice, Valley Forge Laboratories, West Conshohocken, Pa.; Robert W. Ball, C. M. Dann, and Ralph Mair, Krebs Pigment and Color Corporation, Newport, Del.; Earl F. Anderton and Paul Hodges, Scott Paper Company, Chester, Pa.

Arnold J. Barea, Arthur E. Gould and Robert D. Robinson, Paterson Parchment Paper Company, Bristol, Pa.; J. M. Chesnutt, M. Craig Maxwell, F. J. Andrews and J. H. Purcell, McDowell Paper Mills, Manayunk, Philadelphia, Pa.; Wm. D. Marshall, Mathieson Alkali Works, Inc., Philadelphia, Pa.; Robert R. Fuller, Gulf States Paper Corporation, Tuscaloosa, Ala.

L. F. Derr, Goulds Pumps Inc., Philadelphia, Pa.; Chas. D. Cassell, Congoleum-Nairn Inc., Cedarhurst, Md.; J. C. Harper, Jr., West Jersey Paper Manufacturing Company, Camden, N. J.; Henry S. Dimmick, SKF Industries, Inc., Philadelphia, Pa.; Edw. J. Albert, Thwing-Albert Instrument Company, Philadelphia, Pa.; D. W. Cooper, Westinghouse Electric and Manufacturing Company, Philadelphia, Pa.; C. C. Yates, The Eaton Dikeman Co., Mount Holly Springs, Pa.; G. L. Schwartz, Du Pont Experimental Stations, Wilmington, Del.

H. C. Schwalbe, Dill & Collins, Inc., Philadelphia, Pa.; J. Carl Schmidt, du Pont Company, Philadelphia; Edward A. Shallcross, Sr., Philadelphia, Pa.; C. W. Rivise, 1321 Arch street, Philadelphia, Pa.; A. W. Wickham, MacAndrews & Forbes Co., Camden, N. J.

Freight Tariff Suspended

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 10, 1937—The Interstate Commerce Commission has suspended until October 1 the operation of certain schedules of the Union Pacific Railroad company's tariff which propose to establish reduced commodity rates on paper and paper articles, in less than carloads, from St. Joseph, Mo., to certain destinations on the Union Pacific in Wyoming to meet motor truck competition.

Johaneson, Wales & Sparre, Inc. Joins TAPPI

Johaneson, Wales and Sparre, Inc., has become a member of the Technical Association of the Pulp and Paper Industry.

The company was organized in 1922 by Nils R. Johaneson, Orval A. Wales and P. G. A. Sparre, to act as representatives of pulp producers, particularly in Sweden. Since the company was founded it has greatly enlarged its activities which now cover the sale of domestic as well as foreign pulps of all descriptions. The present foreign connections are to be found in Sweden, Finland, Poland, Germany, Czechoslovakia and Austria. The company maintains an office in Stockholm as headquarters for its pulp activities in Europe.

Besides activities in pulp, the company also acts as representative for American paper manufacturers and is a large factor in supplying the Southern kraft industry with its heavy chemicals both from domestic and foreign sources.

With the company is affiliated the concern of J. W. S. Trading Company, Inc., which specializes in machine knives particularly suited to the needs of the paper industry. The knives are made in Sweden from a steel especially manufactured for the purpose and in spite of the depression the company was able during the years of poor business each year to make a marked advance in sales.

The American-Delthirna Corporation is closely associated with Johaneson, Wales and Sparre, Inc., and owns the patent rights in the United States for a sizing process which has been very successfully introduced in the paper business the world over.

The sales of the American Delthirna Corporation are handled by Johaneson, Wales and Sparre, Inc., under the direction of Harry Dixon, vice-president.

The New Midget Metal Encased Static Bar

A complete line of metal encased static bars has recently been developed by the Simco Corporation of 4929 York Road, Philadelphia. These bars vary in outside diameter from ¼ to 1¼ inches. From the smallest to the largest they are capable of discharging highly charged materials at production speeds.

The outer casing, which is of brass, has a series of holes drilled in it, the diameter of the holes and their spacing varying with each size of bar. This brass casing houses a complete static bar which is suitably insulated from it. Each point of the static bar comes in the center of a hole in the casing below the level of its inner wall.

These metal encased bars work on a new principle which makes it possible to get a bar efficiency equal to that of a bar with exposed points. They are so designed that there is absolutely no suppressing action by the outer grounded casing, but on the contrary, a magnifying effect is produced.

The metal encased bars are damage proof, and can be installed at any point in a given machine just as any other metal part is installed; they require no clearance. They will operate efficiently as long as the holes in the bar point towards the material to be discharged.

Curt Weil Joins Warren Steam Pump

Curt Weil, formerly connected with Paper and Industrial Appliances, Inc., New York and more recently plant engineer with the Albermarle Chesapeake Corporation, West Point, Va., has become associated with the engineering department of the Warren Steam Pump Company, Inc., and is located at the main office at Warren, Mass.

Kalamazoo Valley TAPPI Elects

The Kalamazoo Valley Section of the Technical Association of the Pulp and Paper Industry held its annual election meeting on March 4 in the hall of the Bryant Paper Company. The following officers were elected: Chairman—W. F. Hathaway, Kalamazoo Vegetable Parchment Company; Vice-Chairman—Paul de Guehery, Michigan Paper Company; Secretary—W. A. Kirkpatrick, Allied Paper Mills; Treasurer—E. F. Whittington, Rex Paper Company.

Following the business of the meeting, Mr. Wilkins, of the Bryant Paper Company, and Mr. Whittington, of Rex Paper Company, gave a review of the technical papers presented in New York and the recent national meeting. Plans and policies for the coming year were discussed briefly and late in the evening refreshments were served.

Those present were: Merle R. Wilkins, Bryant Paper Company; W. F. Hathaway, Kalamazoo Vegetable Parchment Company; John L. Russell and Charles F. Somerville, Jr., Bryant Paper Company; Clinton J. Wainwright, Allied Paper Mills; Frederick D. Elliott, Michigan Carton Company; A. B. Perlick and L. H. LaLiberte, Kalamazoo Vegetable Parchment Company; Frank B. Eilers, Eastwood-Neally Corporation; W. Kottman and Hugh Smith, Kalamazoo Vegetable Parchment Co.; Alex W. Macvie, Paper Makers Importing Company; Ivan Randall and H. B. Johnston, Allied Paper Mills; Joe Waber and Harry C. Bradford, Rex Paper Company; W. A. Kirkpatrick, Allied Paper Mills; Paul de Guehery, Michigan Paper Company; Elbert G. Milham, Watervliet Paper Company; Allan B. Milham, Bryant Paper Company; W. S. Taylor and V. Heinmuller, American Cyanamid and Chemical Corp.; E. F. Whittington, Rex Paper Company; P. W. Bartholomew, Hercules Powder Company; Jake Bauman, Kalamazoo Vegetable Parchment Company.

New Laboratory Heater

Supplementing its present line of laboratory heaters and hot plates, the Precision Scientific Company, 1736-54 North, Springfield Avenue, Chicago, announces their new Ful-Kontrol Laboratory Heater, which adjusts from 0 to 750 watts, for mild or intense heating.

Throughout the full range of heat control, variation is virtually stepless, actually running up the scale in increments of less than one volt.

The secret is a built-in auto-transformer instead of a conventional rheostat. Not only does the heat control cover a wide range, but heat dissipation is reduced, as a characteristic of the auto-transformer.

The development of this item is of unusual significance to laboratory workers because it represents a radical departure from the usual apparatus-builder's practice of restricting its usefulness by designing it only for a single application. The Ful-Kontrol Heater, unlike its predecessors, is offered with any one of several interchangeable tops, at no extra cost, and accommodates several useful accessories, all listed in Bulletin TS 1600.

S. D. Warren Declares Dividend

S. D. Warren Company declared a dividend of 50 cents a share, payable March 22 to stock of record February 27. In December, 1936, a dividend of $1 was paid, which was the first since February, 1931.

M. S. Fogarty Goes With Michigan Paper Co.

Merton S. Fogarty has joined the Michigan Paper Company's staff as chief engineer, having formerly been with the Groveton Paper Company and other companies for the past twenty years.

A Brief Survey of Management Methods in Paper Mills*

By Sanford E. Thompson[1]

Abstract

The paper is based on a survey of management methods in the paper and pulp industry and presents an outline of some of the basic principles and methods adopted as best present practice. With this purpose in view, a list of questions was mailed, with the cooperation of the Technical Association, to executives of paper mills, on details of management methods involving production control and planning, control equipment, technical control and standardization, satisfactory labor relations and modern sales methods.

The replies to the questions and experience in the industry, showed clearly the recent developments of the industry in processing, in machinery, and in control equipment, and particularly the remarkable advance in technical research. On the other hand, there was clearly brought out the need for: (1) larger utilization of the results of research and standardization in the practical operation of the plant; (2) the development of a higher degree of personal initiative of the foremen and other employees in maintenance of standards of production and quality and waste; and (3) more scientific management of sales.

Remarkable improvements have been made in the manufacture of pulp and paper during the last few years. In pulp the field of raw materials has broadened to embrace a wide variety of woods and of other vegetable growths. Just recently the commercial utilization of the waste products is coming to the fore.

In paper making, the improvements have been chiefly toward increased capacity and higher quality of the paper. Certain of the basic principles of process, however, are now beginning to undergo radical changes. The improvements that have taken place (this is of special satisfaction to the members of this Association) have originated less from the mechanical angle than from technical research. Mechanical and control equipment improvements themselves have come about largely from the exposition of process needs.

It would seem, however, viewing the matter from a broad standpoint, that management in the industry has failed to keep pace with process and equipment. Paper making is a quality process, and uniformity in quality, assuming proper raw materials while dependent to a large extent upon the machinery and equipment, after all, is most vitally affected by the human element, and particularly by the personal initiative of both the management and the individual workmen. Primarily, the responsibility lies with management because the individual cannot properly accomplish his task unless the procedures are properly planned and technically controlled through standards of process and of operation. And we must not forget that satisfaction of the workmen depends not only on the size of his pay envelope but also upon the smoothness of operation of the plant. A machine tender, for example, who is constantly bothered by breaks on his machine cannot be happy.

Comparatively few paper manufacturers yet appreciate, apparently, the vast opportunity that still exists for increased profit through more scientific management of production and sales. Management from this point of view involves quality, waste, productivity, labor relations, and sales effectiveness.

The Objective

The problem, as developed by the survey, that particularly concerns production management (excluding for the moment the phase of sales management) is the lack of consistent application of the rules of technical control. It is necessary then to examine present practices and to determine how these practices can be improved. The approach to these inquiries may well be made through successful experience of the more advanced establishments and the opportunities thus indicated for the more extensive application of the principles of scientific management.

In the control of paper or pulp mills it is necessary, first, to obtain the facts so that management can set and maintain the desired standards of quality, and second, to apply the knowledge thus obtained and the standards thus set to obtain the maximum amount of a predetermined standard of product at the lowest cost.

There is, in the immediate present, due in considerable degree to the assistance of this Association, a marvelous growth in appreciation of the value of technical control and research. It is the operating end, the production control, which lags in practical utilization of the wealth of material that is accumulating. Important in this consideration is the determination of the place in the organization for this active control function.

The maintenance of standards of production and most particularly of quality, furthermore, centers in the training and development of the personnel. This in turn involves directly the proper remuneration of the employees. It is this vital phase of management which shows in the returns the widest variety in methods and policies and one of the outstanding opportunities for larger income both for the company and the employees.

Successful management therefore involves: 1. Production control and planning; 2. Control equipment; 3. Technical control and standardization; 4. Satisfactory labor relations and; 5. Modern sales methods.

A Survey of Management Methods

This present survey of management methods has been made by the writer's company with the cooperation of the Technical Association, to examine, as outlined in preceding paragraphs, the status of the industry and particularly to present an outline of some of the basic principles and methods adopted as the best present practice. Because of the necessary coordination of production and sales, the study would be incomplete without a brief examination of sales methods and policies which are included later in this report. Details of the survey will be presented in a special report now in preparation.

The inferences (perhaps this is a better term than conclusions) to be drawn from the replies and from specific practices in some of the mills, are discussed in the various

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Waldorf-Astoria Hotel, New York, N. Y., Feb. 22-25, 1937.

[1] Member TAPPI, President, The Thompson & Lichtner Co., Inc., Engineers, Boston, Mass.

subdivisions of the paper which follow. Of special satisfaction to the author were the expressions of interest by the executives replying (most of them chief executives of the respective companies), because this interest indicated an appreciation of the fundamental principles involved.

The selection of mills to include in the inquiry, was made in part from personal designation and in part from the paper mill directory, choosing in general those having two or more paper machines. All plants having TAPPI members were included in the list, these companies in fact comprising a large majority of those selected. Replies on all, or on the most vital questions, were received from 75 companies, these representing, however, an appreciable percentage of the paper industry because many of the companies included several mills, totalling, in fact, 166 mills. The nominal total poundage of the mills replying represented a production of some 9,000,000 tons per annum.

At first thought it might appear that the great variety of paper produced in the different mills would influence the conclusions unduly. To avoid this difficulty, however, the questions are chiefly of a general nature which apply to all kinds of paper and furthermore, each reply states the kinds of paper made so that in analyzing replies and drawing conclusions, it has been possible to group the mills into their various classes which were all well represented in the returns.

There is one important qualification, however, that must be noted, namely, that the returns are representative of the better managed mills rather than the average so that they give an optimistic picture. Also, it is the better managed mills which were most interested in replying.

In the discussion which follows, the replies are not treated categorically, but rather as illustrations, in our general discussion, of the various features of paper mill management which are important from the profit standpoint.

In addition to this line of investigation, various paper machinery and control equipment manufacturers have kindly replied to questions and furnished specific information.

1. Production Control and Planning

From the time of the first hand-made paper, centuries ago, well into the present century, the making of paper was a rule-of-thumb process, under the autocratic control of one man, the superintendent. Examination by the superintendent of "tear-outs" as the paper came off the machine formed his criterion for change in speed of machine, alteration of the furnish, change in the time or manner of beating and so on. *Feel* of the stock in the beating engine was the other supreme test. Sulphite pulp manufacture was controlled with equal absolutism by the cook who handled the digesters.

Many mills even today operate by rule-of-thumb. But in the more up-to-date plants, as is evidenced by the survey, there is taking place a remarkable improvement in management.

The planning and scheduling of manufacturing orders and the instructions for furnish and processing constitute one of the important functions of management in paper making. The extent to which this as a functional department should be broadened to include the two phases of technical control, laboratory and mill, depends to a certain extent upon the size of the plant and the nature of the process. It is of interest, however, to note, in the better managed mills, the development of planning and control as a well defined production division.

In the replies received only one or two mills out of those which make to order, fail to maintain special furnish formulas for different customers and nearly all have written standards.

In the planning of sequence of orders there is great diversity of method even in mills of similar grade. Grouping the replies, however, we find a growing tendency toward the establishment of planning the orders as a specific function of the management. Nearly 30 per cent of the companies control the sequence of orders by a planning department or a man specially detailed for this function. Of the balance a large proportion report that the planning is done by the superintendent, the remainder give various other methods. The class of paper made does not appear to bear any direct relation to the group allocation. An analysis of the replies, however, noting carefully the size and character of mill, indicates a lack of appreciation of the need of thorough study and planning as a definite function of management in nearly 20 per cent of the mills replying.

Other phases of mill management involving production control such as maintenance of standards of production and control throughout the mill, are treated in paragraphs which follow.

2. Control Equipment

Standards of process control are maintained in two ways. In the first place by control apparatus and in the second place through the initiative of the men. The use of control equipment is increasing rapidly. In the up-to-date mills which are contacted in the survey, for example, 95 per cent use some form of speed indicators on the paper machines. In general practice in the industry as a whole, this high percentage would not hold but a careful estimate indicates that about three quarters of the paper machines (other than news which are almost universally equipped) have speed indicators of which perhaps one-third are equipped with recording charts. And yet in a large proportion of mills, even among those so equipped, the speeds of the machines are regulated by judgment of the machine tender with little regard to the listed speeds.

In nearly every mill reporting, comprehensive tests are made at the paper machine. These vary with the class of paper, ranging from simple tests to, in one mill, of tests for mullen, tear, bend, finish, moisture, density, dirt, color, grease-proofness and basis weight.

Throughout the more up-to-date mills, is being introduced, more and more, apparatus for control of steam, temperature, and density or consistency. A careful estimate supplementary to the survey would indicate over three-fourths of the mills in the industry equipped with apparatus for controlling or testing density and freeness, although much of this is crude and unsatisfactory. Driers are equipped in still larger proportion with temperature and pressure controls. In boiler plants, which are equipped almost universally with certain controls, the apparatus in perhaps half of the installations is unsatisfactory or incomplete.

The rapid growth in variety and volume of control equipment has been due not only to the technical developments in the laboratory but also to the progress in mechanical equipment and process methods which have necessitated, for their successful operation, a larger measure of automatic and semi-automatic control than hitherto. Radical innovations involving simplification of processes, control of degree of hydration, lowered power consumption, increased production on machine, and reduction in cost of furnish have all tended to require not only redesign of the machines but development and increase in use of the apparatus for recording or control.

In finishing and converting, many of the processes are

mechanical rather than strictly technical so that there is less use of control equipment. Even here, however, there is an extensive field, both in process control and in regulating devices for speed and productivity.

3. Technical Control and Standardization

One of the most encouraging features brought out by our study of management methods is the widespread use of technical research and standardization. More than three-fourths of the replies show a technical control division and the status is evidenced further by the fact that a still larger percentage of the plants reporting have one or more laboratory men constantly employed.

While, as stated above, the mills contacted were the larger and better ones, the increased use of technical control shows a definite advance in the scientific method.

Utilization of Technical Control in Practice. It is one thing, however, to conduct tests and research. It is quite another to utilize these to the fullest extent in mill operations. The one is a technical phase while the utilization is a management function. This distinction is not fully realized even in some of the best mills. A mill may have the finest laboratory, may carry on most searching tests, and may keep comprehensive records. But records are *after the fact.* Standards of strength, moisture, tear, freeness, etc., for each kind of paper are essential for successful operation, but unless the mill management sees that the standards are maintained, they serve only a small part of their real usefulness.

The weak point, even in many of the best mills, appears to lie in the management end. Even with the best of theoretical standards and comprehensive records, unless uniformity is maintained (and this applies to the entire mill) the tests and the controls fall far short of maximum usefulness. No matter how well equipped mechanically, there is, in almost all operations in a paper or pulp mill, a personal responsibility on the part of both foremen and mill men, which cannot be assumed by the equipment alone.

It may be that the basic reason for the neglect so often found, is not only the failure to appreciate the necessity of differentiating technical control as a specific executive function, but even more fundamentally the lack of recognition on the part of the management that *Uniformity of Quality Reduces Cost.*

Too often we think of quality as the factor that prevents customers' complaints. It is far more than this. Frequently greater uniformity of quality is a means of increasing profits many thousands of dollars per year. The importance of this is so great that some of the principles are discussed further below.

Importance of Consistency of Stock. One of the weak points in paper mill management is shown to be the control of the consistency or density of the stock. For example, in the survey more than half of the mills reporting gauge the density of the stock in the beaters by judgment of the beater man. Some two-thirds of those replying flush unmeasured water into beaters in dumping. A considerable number on the other hand; 25 per cent of those reporting, use very accurate methods of control.

The importance of the consistency or density element would appear to be often overlooked because so many mill men think in terms of water instead of stock. They do not stop to think that if the density, that is the percentage of solid stock, is decreased, for example, from 3 to 2.5 per cent, a variation results not of 0.5 per cent but of 16.67 per cent. This principle is of particular moment when a cheap slushed stock, such as newspaper, is mixed with an expensive stock like rags, a slight decrease in density

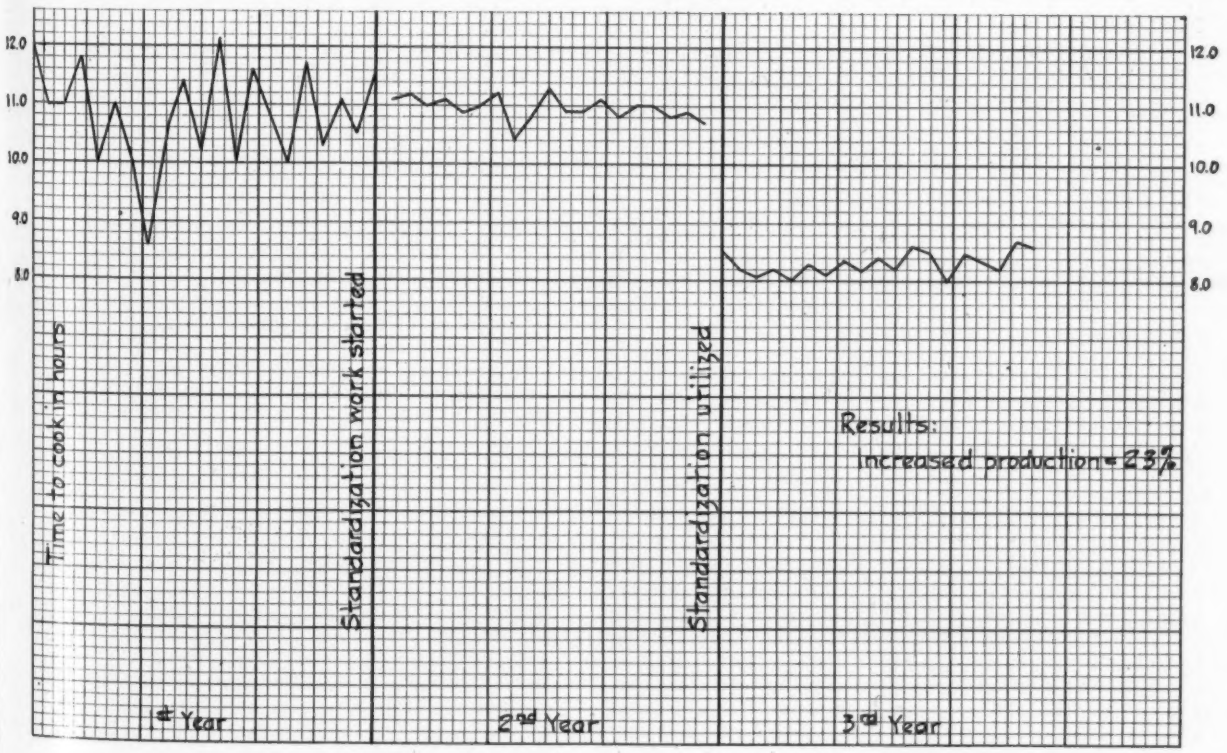

Fig. 1
Reduction of Processing Time Through Standardization.

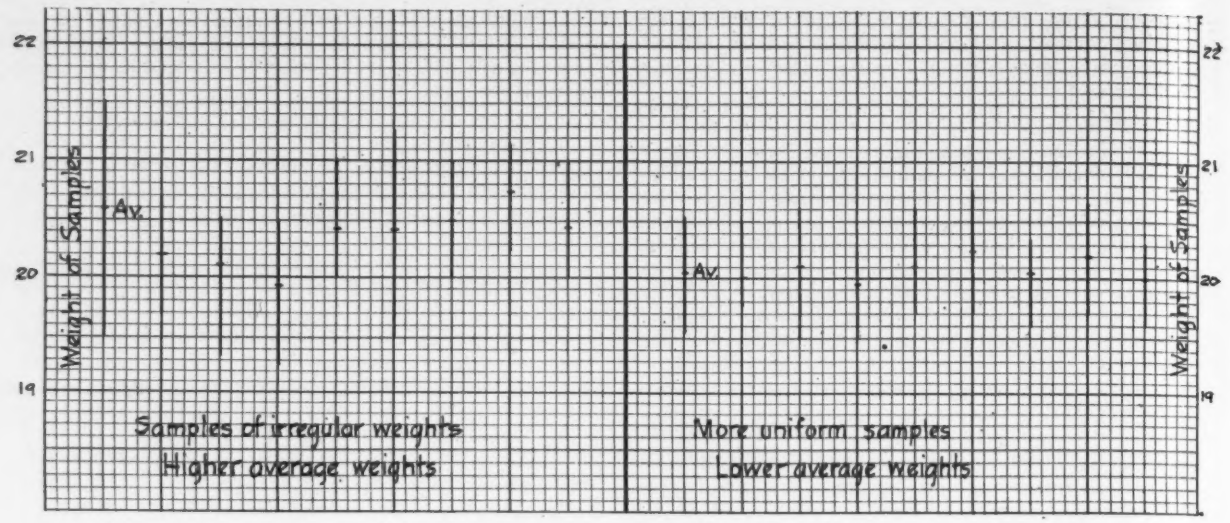

FIG. 2
Reducing Average Weight of Paper by Standardization.

of the paper stock may mean a very great loss in profit because the percentage of actual cheap paper stock to expensive rag stock in the final product is correspondingly reduced. This results in a big money loss and a variation in quality.

Variations in bleaching are often due to the differences in consistency of the stock. For example, if there is a 10 per cent change (not in water content but in the amount of the solid stock itself) in density, it will have the same results as a variation of 10 per cent in the quantity of bleach used.

The effect of the water content is of fundamental importance in almost every operation in a paper mill and frequently is responsible for the difference between profit and loss in the business.

Uniformity in Relation to Fixing of Standards. The above illustrations indicate the importance of uniform quality from the profit standpoint.

The fundamental principle involved, however, we find is often overlooked in industry and especially in an industry like paper making where absolute exactness is unattainable.

This principle may be stated as follows: *Uniformity permits minimum operating standards.*

For almost every operation or product there is a minimum quality requirement. The nearer the approach of the average to the minimum, the greater is the saving in cost of material or in operation.

An illustration of this may be drawn from actual practice in one of the mills reporting. In Fig. 1 is shown at the left the length of time of several consecutive cooks of sulphite pulp, when the cook reigned supreme, before standardization of process. A range in consecutive cooks from 8½ to 12 hours is shown with an average of 10.8 hours. Preliminary development of standards reduced the range, shown in the middle of the chart, to a range of 10.4 to 11.3 hours, with an average no lower than before.

A study of the results brought forth the question: "If one group of cooks can give satisfactory pulp in a time ranging from 8 to 8½ hours, why cannot the standard times be reduced from 11 hours to 8 to 8½ hours?" and this was done, with an average for the third period of 8.3 hours per cook, resulting in an increase of 23 per cent in the production. The resulting reduction in cost and more even product is evident. The results shown were attained before control equipment was introduced, through a study by the foreman of best methods of operating and then the training of the men, aided by a bonus for maintenance of standards.

Similar principles apply to the maintenance of lowest permissible averages in the paper mill. Reducing the average oven-dry weight through greater uniformity, while keeping well within the customer's specifications, frequently means a large increase in net profit. Fig. 2 illustrates the effect on profit, when paper is sold by the ream or package, of maintaining uniform standards of weight of paper coming off the machine. With a range in weights of samples, as shown at the left of the chart, from 19¼ to 22½, an average weight of samples was 20.3 in order to keep above the minimum average requirement of 19.5, the basis weight being 20.

With increased uniformity, shown at the right, that is accomplished by improvement in operation, both at the machine and in the operations preceding, while maintaining the customer's limits, the average weight is reduced to 20.1. This is a reduction of 1 per cent in the finished weight of paper which means an increase in actual profit equal to 1 per cent of the gross sales. This type of improvement, in one three-machine mill, resulted in an actual increase in profits of $36,000 a year through saving in cost of raw material due to decrease in average weight of paper. The uniformity of standards in this case was maintained with the aid of a small bonus.

The principle involved applies both to paper sold by the pound, where the moisture content is an important factor in its relation to the total weight, and to paper sold by the ream or package where the oven-dry weight is the factor which counts.

Customers are more than satisfied (and this is a vital point) because they prefer, even in package paper, uniformity with a slightly lower dry weight, to a greater variation in quality with a heavier stock.

Still another illustration may be taken from a third mill on the list where savings of $20,000 per year were made through more exact determination of oven-dry weight of the furnish in proportioning sulphite stock to expensive rag stock.

Uniform Quality in Finishing and Converting. The principles of uniformity in maintenance of standards of quality apply as well to finishing and converting operations as to the making of pulp and paper. Here the effect of process standardization in making the original paper is most startling in reducing waste and improving uniformity in quality in the converted product.

In the converting operations themselves also the same principles apply. For example, in some of the mills contacted, we find waste reduced in certain processing as much as 50% through better methods and management. We find cost of coating material reduced, colors matched and "trials" saved by more scientific maintenance of formulas. Gummed paper we find reduced in cost by better methods of mixing glue and in coating.

4. SATISFACTORY LABOR RELATIONS

The illustrations presented show the economic value of standardization of process and of operating methods.

The important question from the management point of view is, "given the proper equipment and raw materials, how can I maintain the standards required?" This involves both control equipment which has been considered already and the conscientious work of all the employees, which in turn must be fairly rewarded by adequate wage or other incentives.

Successful operation in all of such process work requires the development by the management of the initiative of the worker to accomplish his job to the best of his ability.

To review current practice in personnel relations in paper and pulp mills specific questions were asked in the Survey on the use of incentives and regarding wage payment plans. The replies on incentives supplement the replies to similar questions in a preceding inquiry[2] which treats of this subject in greater detail.

In both surveys the mills were asked whether they have incentives in making pulp, in making paper and in finishing and converting, also in each case whether the incentives were for production or quality or waste. Then followed a question as to their opinion of incentives in a paper and pulp mill.

The returns on both surveys were remarkable, not only in the relatively small number of mills having any incentives at all (only 42 out of a combined total of 120 companies) but even more from the general approval of those who maintained them and the enthusiastic endorsement by those who made quality or waste a definite factor in the awards. Of a few companies which have tried incentives and discontinued them, none appears to have utilized the quality or waste elements. On the other hand *not a single mill where quality is taken as a definite factor but gave an entirely satisfactory approval,* this approval including pulp mills, the paper making divisions and the finishing and converting divisions of paper mills.

The "opinions" on the other hand, in a number of cases, were derogatory or questioning. This prejudice against incentives, however, so contrary to experience in many plants, seemed to lie almost entirely among those who had never utilized them or who had not appreciated the versatility in treatment that is possible for different conditions. A type of incentive, for example, that is suitable for the mechanical operation in finishing, such as reeling, cutting, packaging, is entirely unsuited to a paper making department or to processing, such as coating, waxing, and gumming, in a converting division.

[2] Reported in a paper "Improved Pulp and Paper Quality Through Incentives" presented by Sanford E. Thompson before a meeting of the New England Section of the Technical Association of the Pulp and Paper Industry and printed in Paper Trade Journal, March 19, 1936.

We may conclude from all of this experience that

(1) Incentives in a paper or pulp mill in which quality is not a first requirement are worse than useless, but on the other hand

(2) Incentives properly applied, based primarily on quality of product or maintenance of technical standards, result in better paper, increased productivity, less waste, lower cost, and improved labor relations.

Wage Payment Plans. As would be expected from the relatively small proportion of incentive plans, the straight hourly wage largely predominates in the companies reviewed with nearly two-thirds of the companies operating under this plan. Other plans include straight piece rates in many of the finishing operations; incentives for meeting quality tests set by the technical department; bonus on performance standards set by time-studies; group bonuses for quality production, etc.

Non-Financial Incentives. A plan that is scarcely referred to in the replies, but which certain plants have found effective, is the non-financial incentive. The general principles of this plan involve a display of the records of maintenance of standards of the different shifts in continuous form so as to develop the initiative of the operatives to quality and quantity production. To be successful this must be accomplished by a graded wage scale based on regular high performance.

5. SELLING METHODS

Selling the product is so intimately a function of the management and so tied in with production that the inquiry included this branch of management.

Selling methods vary widely with different companies, both as regards outlets and methods of management. This situation applies to all of the kinds of paper. The methods adopted appear to depend, not so much upon the nature of the product, as might be expected, but rather upon the initiative of the individual management.

Nearly all of the companies reporting sell both to jobbers and manufacturers. One-fifth sell also to retailers.

Sales quotas are set by about one-third of the companies reporting and territories are allotted by about one-half of them. A large percentage (nearly three quarters of the total) state that they analyze their markets and most of these use such data, they say, in managing sales.

In the fixing of salesmen's compensation there is great diversity of plan as in most other industries. There is no other function of sales management that is so hit-and-miss and which offers such opportunities for improvement.

To illustrate the diversity of plan in different mills, we find over two-thirds of the concerns pay straight salary only, or, in the majority of these, salary plus expenses. A few pay straight commission, in one or two cases plus expenses.

The salaries in the great majority of companies are fixed with no relation to goods sold. A few, however, about half of those on salary, evidently take into account, in the fixing of salaries, either the type of the product or the profitableness of sales. Of those on a commission or a bonus plan in addition to salary, only a very few concerns utilize profitableness as a factor in fixing the compensation. In three concerns out of the total number, and only three, does there seem to be a well developed compensation plan with emphasis on the effectiveness of the salesman.

It would appear that one of the largest opportunities in the paper industry lies in the more scientific development of sales management.

6. VITAL ELEMENTS IN SUCCESSFUL PAPER MANUFACTURE.

In reply to the inquiry as to the relative importance of

the various factors in paper mill management, the answers in sequence of the largest number of votes, beginning with the one in greatest demand were: 1, Mill management; 2, Organization; 3, Sales management; 4, Modern equipment; 5, Technical control; 6, Raw materials, and 7, Research.

Certain pertinent remarks were presented with individual replies emphasizing: "Proper balance of these elements with sales on a basis of quality and service"; "Knowledge of costs so as to tap the most profitable markets"; "Organization plus team work"; "Coordination of production with sales promotion"; "Coordinated departmental organization through an operating management."

Comments on Industry Progress and Conclusions

This brief review coupled with a fairly intimate relationship with the industry for some forty years leads to certain comments on present status and future opportunities.

Regarding the present status:

1. The industry is rapidly developing from the rule-of-thumb operation, practically universal at the beginning of the century, toward an industry which is scientifically managed and operated.
2. Research and the development of technical control are playing a major role in this development.
3. Processes in pulp and paper making are undergoing at the present time radical innovations and improvements leading to improved quality and larger production.
4. Equipment is keeping pace with process changes and control apparatus is being introduced rapidly with markedly good effect.
5. New products and new kinds of paper are constantly appearing with utilization of new raw materials and physical and chemical research.
6. Selling methods and policies are being developed effectively in a very few companies.

To keep pace with the improvements in machinery and processing, there are essentially needed:

1. More practical utilization in the mill of the improvements in process and of the standards thereby developed, through more scientific control of production operations, thus gaining the full benefit of standards in quality and productivity and profit.
2. Development of a higher degree of personal initiative of the foreman and the other employees in the maintenance of standards of production and quality and waste with a systematic follow-up of accomplishments and appreciation (sometimes by financial rewards) for satisfactory work.
3. Scientific development of sales management involving specific study of outlets, of territories, of most profitable products, and compensation of salesmen commensurate with the accomplishments in increasing business and selling for maximum profits.

The Use of Wax Emulsions in Surface Sizing Paper and Board*

By Ralph W. Kumler[1]

Summary

A review of the patents relating to surface sizing with wax and a classification of and comments on the application methods.

Wax emulsions have been used as ingredients of paper coatings for centuries but only in recent years have paper makers given consideration to the application of wax emulsions as surface sizes coincidental with the manufacture of paper itself. Even today our technical literature is almost barren on this subject. What little information may be gleaned is to be found in the patent literature. The interest awakened in this matter in the past few years seems to warrant a discussion of the subject at this time.

Review of Major Patents

The first reference to surface sizing with an emulsion containing wax, found in any United States letters patent, is made by Harrington in a patent *(1)* applied for in 1906 and issued in 1910. This features a complex mixture of which one ingredient is wax, and which can be applied to paper. He points out that paper can be treated with his emulsion while passing over the paper machine but does not go into further detail. His particular formula is all that is claimed to be novel. Whether such a composition was ever used commercially as a surface size is not known.

The earliest description of a process of applying a wax emulsion to the paper web as it passes over the paper machine is given by Clapp in a patent *(2)* applied for in 1926 and issued in 1931. This relates specifically to the use of a wax emulsion either alone or in combination with glue, colors, and so forth, after the paper has been dried but before or coincident with the calendering operation. The prime object of the process is the improvement of the finish of the paper but mention is also made of other effects such as grease and ink resistance. It is suggested that application may be made in the calender water box, by spraying, or other suitable means.

About a year later Hans *(3)* discloses a similar process with particular reference to multi-ply board and emphasizes the use of color with a paraffin emulsion. By reducing the quantity of engine sizing and color and giving a surface treatment with wax and dye, economy of raw materials can be effected and at the same time improvements can be made in the products. The similarity of this application to that of Clapp's apparently brought about an interference in the Patent Office with the result that claims in Clapp's patent were held to dominate Hans, in view of Clapp's earlier filing date.

In 1933 a patent *(4)* was issued to Lodge describing the application of wax or other hydrocarbon emulsions of a non-soap type, starch and glue being suggested emulsifying media. It is proposed that application be made at various points subsequent to the beaters, such as at the screens, size tub, and calender water box.

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Waldorf-Astoria Hotel, New York, N. Y., Feb. 22-25, 1937.

[1] Member TAPPI, Technical Representative, Lennett, Inc., Wilmington, Del.

Oberdorfer *(5)* describes a method of applying wax at the calenders in a patent issued in 1933 and reissued in 1934. While emulsions are included as possible to be used, the patent has more specific reference to molten wax. In order to prevent excessive absorption of wax, the absorptive capacity is reduced either by moistening the sheet before it enters the calenders or by heavy calendering to reduce porosity. The wax is then applied either by a spray or a box similar to a water box. Another feature of the process is the limitation of the application of the wax to wide strips with unwaxed spaces between, to prevent slippage of the calender rolls on the paper. The unwaxed portions of the paper are later discarded.

Arpin *(6)* describes a method of spraying various materials, including wax, on the web of paper as it passes over the paper machine. Toohey and Williams *(7)* disclose a means of reducing to a negligible quantity the shrinkage and expansion, under varying humidity conditions, of asbestos and wool felt papers. One method is to pass the paper through a wax emulsion. Rafton *(8)* describes the sizing of alkaline filled papers by treating the paper web with either an emulsion or a solution of unsaponifiable thermoplastic material, as a means of escaping the difficulties involved in engine sizing such paper.

Novak *(9)* has worked out a method of impregnating the wet web with various liquid materials including wax emulsions. By his process, after the paper leaves the usual press section it passes through one or more baths of the saturant, while being supported by an endless screen similar to a fourdrinier wire. The screen presses the web against a drum while passing through the bath and thus prevents disruption of the sheet. It is claimed that by this means more material can be uniformly incorporated in the paper than by previous methods such as beater sizing or impregnation of the dry web. Kress and Johnson *(10)* have recently patented the surface treatment of paper and board with a wax emulsion stabilized with protein materials. This patent covers the treatment of acid, neutral and alkaline papers.

Reasons for Applying Wax Emulsion

The purposes for which wax emulsions are applied to the surface of paper or board are several. The more important ones may be listed as follows:

1. To give a smooth surface or finish.
2. To increase resistance to scuffing and abrasion.
3. To reduce friction between sheets of paper.
4. To produce a water repellent effect.
5. To increase water resistance.
6. To reduce absorption of printing ink.

For some of the above purposes wax emulsions are mixed with other materials such as starch, casein or silicate. In fact, in many cases the percentage of wax in the total mixture is so small that it is more properly considered a modifying ingredient.

Wax emulsions for surface sizing fall into two general classifications, viz: those in which the principal emulsifying agent is a soap base and those which contain some other type of emulsifier such as colloidal clay, sulphonated oil, starch or other hydrophilic colloids. The two types behave quite differently when used as surface sizes.

Soap Type Emulsions

Soap type emulsions are very sensitive to acids and alkaline earth salts, small quantities of either decomposing the soap which allows the wax to coagulate into curds. When paper or board passes through a size tub, liquid penetrates the pores of the paper to some extent and is partly squeezed out again as it passes between the press rolls. In so doing acid material is extracted from the paper and carried into the main body of the liquid in the tub. In this way the pH of the size bath falls to such a point that soap type emulsions precipitate, resulting in uneven application and wax spots. The same situation arises in the case of calender water box applications. Coagulation may be prevented if soft water is used and, provided the paper does not carry too high a total acidity, by maintaining an excess of alkali in the size bath. However, care must be taken not to have too much alkali present as this discolors the paper and destroys the internal sizing. The amount of acid in paper that can be successfully neutralized with alkali in the surface size is limited because salts formed by the reaction also tend to break down soap type emulsions.

Non-Soap Type Emulsions

Non-soap type emulsions are less affected by pH and some not at all. The most stable ones can be used without the necessity of pH control and remain in their original state until entirely consumed.

The two types differ materially in the degree to which they penetrate paper, the non-soap type being absorbed to a greater extent than the other. When the soap base emulsions contact paper, residual acids cause immediate precipitation, depositing wax at the surface which hinders the penetration of further quantities of liquid. As the non-soap emulsions do not coagulate, such obstruction to absorption does not form. For this reason, applications of soap type emulsions are confined more to the surface and usually produce more water repellent papers than the other type. This may be partly due also to the more complete elimination of the emulsifying agent by decomposition. The setting or fixation of non-soap emulsions depends on heat being supplied to the paper after the application of the emulsion. This dehydrates the emulsifier, melts the wax and causes the latter to break away from the former after which it resists penetration of water.

If board comes off the machine very hot, some attention must be given to the melting point of the wax used. When board is stored hot in rolls or piles of sheets, low melting waxes remain in liquid condition and gradually penetrate into the interior. It is usually desired to keep the wax at the surface and this can be achieved if the proper wax is selected.

In order to confine non-soap emulsions to the surface of paper it is customary to mix them with starch. In this manner a very good water repellent effect can be produced. Starch also eliminates the tendency of these emulsions to be tacky immediately after application to the paper. Strangely enough, a mixture of starch and wax emulsion of the proper type works much better on the calender stack than either one used alone.

As far as we are aware, all commercial applications of wax emulsions to paper or board as it passes over the paper machine, are made by means of either a size tub or calender water box. The size tub method is preferable for paper because it allows thorough drying of the sheet afterward. Furthermore application by means of water boxes necessitates a water finish which is undesirable for some papers. When water boxes are used it is desirable to have the board pass over one or two heated calender rolls to dry the surface as much as possible and flux the wax.

We shall now consider more specifically the various treatments that are given to attain different results. Referring to the list given above of purposes for which papers

are treated with wax emulsions, it will be noted that they fall into three general classifications: first, those purposes which are primarily concerned with water resistance, second, those which involve chiefly the attainment of a smooth, tough surface and third, those in which resistance to oil or grease is the prime factor. Treatments are much the same for the different items in any one group, although formulas will vary somewhat among different mills striving for the same result.

Surface Improvement

The most widespread use of wax emulsions for surface sizing has for its object the improvement of the character of the surface of container board. In making this kind of board, it is desirable to produce a smooth, tough surface, quite water resistant so that the finished box will withstand continued scuffing and rubbing without becoming unsightly or sustaining damage to the printing. For this purpose it is customary to use a non-soap type wax emulsion in conjunction with starch in the calender water box. The modified thin boiling starches are preferred. Concentrations of starch in the calender size will vary from 3 to 9 per cent and the proportion of wax to starch (on the dry basis) ranges from 1 to 6, to 1 to 15. Machines have been developed for testing the scuffing quality of board by rubbing two liner surfaces together under a definite weight, until a breaking up of the surfaces takes place. The number of rubs is recorded and provides a numerical result. It is reported that a calender treatment such as outlined above, raises the number of rubs from less than ten to several hundred. In one particular case 1 pound of wax and 9 pounds of starch (dry basis) was found to cover about 25,000 square feet of liner surface, but in other cases this amount of material is spread over as much as 80,000 square feet. Other types of board are surface treated for the same purpose but the above will serve as a typical example.

A variation of this treatment has for its principal object the production of a slippery surface. It is sometimes applied to drinking cup paper to make the cups dispense easily from holders, to filing folders and separators, and to baking cup and candy wrappers. The latter are nested and it is important that they be easily separated. They are commonly made of glassine paper and the wax emulsion is applied with the dampening water. Either a soap type or a non-soap type emulsion may be used for this and the application need be only very light for the purpose. Glassine paper exhibits satisfactory slipperiness with 1 pound of wax distributed over 25,000 square feet of its surface.

Obtaining Water Resistance

The next purpose, in importance, of treating paper and board with wax emulsions is that of producing water resistance. Here it may be desired, merely to reduce the rate of penetration of water or one may wish to produce a surface that repels water much as a hot waxed paper does. Both paper and board are treated for such purposes, the former in the size tub and the latter at the calenders.

When paper is treated in a size tube with a wax emulsion it is usually for the purpose of obtaining a water repellent surface. For some purposes, such a paper can be used to replace waxed paper. This method has the advantages that the cost is much less than when a treatment with molten wax is given and the discoloration resulting from such treatment is eliminated. There is no appreciable injury to the color of white paper brought about by the application of a wax emulsion if the lighter colored waxes are used.

The formula for such a tub size may vary considerably depending on conditions and on how heavy a treatment it is desirable to give. If a soap type emulsion be used, no other ingredient is necessary unless a stiffening agent is required. We have found concentrations of wax between 2 and 5 per cent usually sufficient. There seems to be very little increased effect in going above 7 per cent. From an operating standpoint a non-soap type emulsion together with starch is more satisfactory, as indicated above. The proportions required to give a good water repellent effect differ widely from mill to mill for reasons we do not yet fully understand. Using a non-soap type emulsion we have obtained good results in one mill with a tub size containing 1.5 per cent wax and 4.5 per cent starch. In other mills this was inadequate and no better results were obtained with 5.7 per cent wax and 1.3 per cent starch. Probably the character of the water and the formation of the sheet are both factors.

Below is tabulated data from a series of experimental runs made on a commercial scale, sizing various weights of paper in a size tub, using a non-soap type wax emulsion and a modified corn starch. The paper was made of 100 per cent bleached sulphite and sized with 3 per cent of rosin size in the beater. The hardness of the water used by the mill averages around 35 parts per million as $Ca\ CO_3$.

Run No.	Size Bath: Starch per cent	Size Bath: Wax per cent	Temp. deg. F.	Basis Weight 24x36-480	Pick Up (wet): Per cent	Pick Up (wet): Lb. per ream	Square Feet covered by 1 pound of wax
1.	1.35	4.25	120	30	40	12.00	11,294
2.	1.3	5.7	110	50	25	12.50	8,084
3.	1.3	5.7	110	83	18	14.94	6,777
4.	1.2	8.5	100	83	18	14.94	4,535

All of these papers were water repellent but the magnitude of effect was in proportion to the amount of wax taken up.

Very small proportions of wax to starch which are used for improvement of surface only, do not produce a water repellent effect, but do reduce the rate of penetration of water. One mill reports that by such calender treatment, enough size is eliminated from the beater so that a substantial saving is made on the total cost of sizing.

Wax in Surface Sizes

The use of wax emulsions as an ingredient of surface sizing for reducing the absorption of printing ink is a matter that has not yet been studied intensively. Complaints have been received that surface sizing with wax and starch has caused offsetting where heavy amounts were used. This suggests the possibility of controlling the penetration of printing ink by judicious application, but more work must be done on the problem before definite indications can be noted. This also suggests the possibility of increasing resistance to grease and oil but it is hardly to be expected that anything approaching oil-proofness can be attained by surface sizing with wax emulsions. However, the degree to which it is possible to go is a matter for future investigation.

Literature Cited

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(4) Lodge, William C. U. S. Patent No. 1,903,787.
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(8) Rafton, Harold Robert. U. S. Patent No. 2,020,328.
(9) Novak, Izador J. U. S. Patent Nos. 2,044,012 and 2,049,469.
(10) Kress, Otto, and Johnson, Charles E. U. S. Patent No. 2,059,465.

Kalamazoo to Build New Addition

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., March 8, 1937—The Kalamazoo Vegetable Parchment Company's expansion project will get under way at once, and will no doubt be in operation by the latter part of 1937.

The project includes the erection of a new building 529 feet by 94 feet running parallel with the No. 2 plant. It will be a two-story building with the exception of sixty-three feet of the north end which will be three stories. In this section will be located the bleach plant—3 Stage—with 80,000 pounds capacity. The bleach beaters will be located in the present buildings and the fluid pulp will be pumped to the bleach plant in the new mill.

Equipment in the new bleach plant will be two stages of bleaching consisting of low density chlorinator, and high density hypo-chloridite bleaching.

The pulp after bleaching will be deckered and conveyed to the machine beaters.

The new beater room will consist of three 2,000 lb. beaters and two Jordans with chests and auxiliaries.

The new machine will be manufactured by the Bagley & Sewall Company, of Watertown, N. Y., the Fourdrinier end carrying a 138 inch wire 75 feet long with a suction couch.

Press parts consist of two straight through presses, first press suction, and the second plain.

The drier part of the machine is divided into five sections as follows:

1. A straight through smoothing press;
2. First drier part consists of six 60 inch driers;
3. Second drier part consists of one 144 inch Yankee drier.
4. Straight through tub size press;
5. Third drier part consists of five 60 inch driers.

The machine will have one calender stack, six rolls with uniform speed reel, unwinder and two drum winder.

It will be driven through spiral bevel gears and a line shaft, by D. C. variable speed electrical equipment. The south end of the new mill will be used for roll storage and will be equipped with tram rail arrangement.

The new building is sufficiently large enough to house a duplicate of the equipment hereby described and this thought was in mind when the draft of the plans were made.

The business of the company is satisfactory and this new unit when in production will add very materially to the tonnage.

Boston Paper Business Steady

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., March 8, 1937—The situation in the Boston wholesale paper market last week was practically the same as in the previous week. Fine paper moved rather well, although some houses reported that business was not so good as it was in February. Diploma lines moved well.

In kraft, it was intimated that conditions were favorable. It is reported that customers seem to be willing to pay the advanced prices of paper, realizing that the cost of raw materials is higher. The paper bag business continued good. The Boxboard was a little more active last week than during the previous week.

Paper stock continued active in many grades, although in some there was less movement. Under old papers, No. 1 books, heavy, advanced to 1.35 from a previous quotation of 1.25, f. o. b., Boston. There are thousands of tons of books on the Pacific Coast, the shipment of which was delayed on account of the seamen's strike.

Eastern dealers who had bought them expected to have them shipped, but it is stated that there is difficulty in obtaining space on boats. A considerable amount of these books was bought at prices prevalent at the time the strike was declared, but since then values have advanced materially. Dealers naturally say they want the books at the price agreed upon.

No. 1 kraft advanced to 1.90 @ 2.00 from 1.45 @ 1.50, f. o. b., Boston. Kraft paper is particularly high, due to the scarcity of kraft pulp, as has been previously noted in these columns. Corrugated boxes rose to .65 @ .70 from a flat price of .65, and kraft corrugated boxes to 1.50 @ 1.60 from a previous quotation of 1.20 @ 1.35, both f. o. b., Boston.

Demand for bagging held fairly well, with no slackening in prices. The call for new domestic rags was good, with material absorbed about as fast as produced. Khaki cuttings went up to .04¾ @ .05 from .04¼ @ .04½ and O. D. khaki to .05 @ .05¼ from .04½ @ .04¾, both f. o. b., Boston.

In old domestic rags, the demand for roofing stock has lessened. The No. I grade has declined to 1.80 @ 1.90 from 1.90 @ 2.00 and No. 3 to 1.25 @ 1.35 from 1.40 @ 1.50, both f. o. b., Boston. There was little activity in foreign rags, with prices high on the other side.

Association Work Discussed

There was an excellent attendance at the regular luncheon and meeting of the Eastern Division of the Paper Salesmen's Association of the Paper Industry, held in the Florentine Room of the Hotel Lexington, New York, on Monday.

Problems of the industry were described and discussed by leading officials of various associations, including the following:

Douglas MacPhail, of the American Paper and Pulp Associating, substituting for Charles W. Boyce, executive secretary, who was unable to be present due to illness.

Oliver M. Porter, secretary-treasurer of the U. S. Pulp Producers Association.

Colonel Benjamin A. Franklin, secretary-treasurer of the Specialty Paper and Board Association.

E. H. Naylor, executive secretary of the Writing and Cover Paper Manufacturers Associations.

Thos. J. Burke, secretary-treasurer of the Sulphite Paper Manufacturers Association and the Glassine and Greaseproof Manufacturers Association.

James L. Ritchie, secretary-treasurer of the Bristol Board Manufacturing Group and the cardboard Manufacturers Association.

Dr. E. O. Merchant, secretary-treasurer of the Groundwood Paper Manufacturers Association.

J. A. Dwyer's New Post

J. A. Dwyer, manager of the Philadelphia branch of Crane Company has been appointed district manager of all Crane branches in the Eastern territory, including all of the New England states, in addition to metropolitan New York, Eastern Pennsylvania, New Jersey, Maryland, and the District of Columbia. A total of eighteen Crane establishments thus come under the jurisdiction of Mr. Dwyer, whose headquarters will be at the company's New York branch.

H. S. Officer, manager of the Newark branch, succeeds Mr. Dwyer at Philadelphia, and J. H. Geiss moves from Hempstead, L. I., to succeed Mr. Officer as manager at Newark.

AMERICAN PAPER AND PULP ASSOCIATION

From the EXECUTIVE COMMITTEE to FRANK J. SENSENBRENNER

At this, the end of your term as President of the Association, the undersigned desire to convey to you our highest esteem and our admiration for your noteworthy services to the Paper Industry, and to inscribe upon our records our appreciation for all you have been and are to each and every member.

For nearly half a Century the Industry has had the benefit of your wide experience and sound judgment, which have contributed so much to its welfare. You have given to it unstintingly. Your fine character, unusual ability and genuine friendliness have inspired a heartfelt devotion among your associates which will abide always.

Faithfully yours,

Hugh J. Chisholm	*A. R. Graustein*	*S. L. Willson*
Stuart B. Copeland	*R. A. Hayward*	*Norman W. Wilson*
R. J. Cullen	*H. Loring Jenkins*	*J. D. Zellerbach*
H. W. Ellerson	*G. H. Mead*	*Carl E. Whitney*
D. C. Everest	*J. R. Miller*	*Cola G. Parker*
A. C. Goodyear	*Z. W. Ranck*	*Charles W. Boyce*
	John L. Riegel	

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING MARCH 6, 1937

CIGARETTE PAPER

R. J. Reynolds Tobacco Co., *Pr. Harding,* Havre, 183 cs.; De Mauduit Paper Corp., *Pr. Harding,* Havre, 353 cs.; A. Dunhill & Co., *Berengaria,* Southampton, 2 cs.; ———, *Antonia,* Havre, 98 cs.

WALL PAPER

F. Blank, *Washington,* Hamburg, 9 cs.

WALL BOARD

———, *Rydboholm,* Gothenburg, 34 bls.

PAPER HANGINGS

W. H. S. Lloyd & Co., *American Shipper,* London, 5 bls., 2 cs.; ———, *American Merchant,* London, 19 bls., 3 cs.

NEWSPRINT

Jay Madden Corp., *Minnequa,* Helsingfors, 231 rolls; N. Y. Evening Journal, *Markland,* Liverpool, N. S., 568 rolls; N. Y. Tribune, *Markland,* Liverpool, N. S., 1,627 rolls; World Telegram, *Markland,* Liverpool, N. S., 393 rolls; Brooklyn Daily Eagle, *Markland,* Liverpool, N. S., 719 rolls; Westchester Newspapers, Inc., *Markland,* Liverpool, N. S., 42 rolls; Parsons & Whittemore, Inc., *Markland,* Liverpool, N. S., 536 rolls; Jay Madden Corp., *Malaren,* Kotka, 564 rolls; Walker, Goulard, Plehn Co., *Malaren,* Kotka, 97 bls.; Lunham & Reeve, Inc., *Malaren,* Kotka, 382 rolls; Jay Madden Corp., *Scanyork,* Helsingfors, 511 rolls; Jay Madden Corp., *Rydboholm,* Hango, 266 rolls; Wilkinson Bros. Co. Inc., *Rydboholm,* Hango, 70 rolls; Jay Madden Corp., *Washington,* Hamburg, 247 rolls.

PRINTING PAPER

R. Wilson Paper Corp., *Cameronia,* Glasgow, 1 cs.; H. Reeve Angel & Co. Inc., *Antonia,* London, 1 cs.; Japan Paper Co., *Antonia,* London, 1 cs.; Jay Madden Corp., *Washington,* Hamburg, 50 bls., 62 rolls; Parsons & Whittemore, Inc., *Washington,* Hamburg, 58 rolls.

WRAPPING PAPER

Jay Madden Corp., *Washington,* Hamburg, 65 rolls, 14 bls.

DRAWING PAPER

H. Reeve Angel & Co., Inc., *Antonia,* London, 3 cs.

FILTER COMPOUND

P. H. Petry & Co., *Pr. Harding,* Hamburg, 70 bls.; N. Krieman, *Westernland,* Antwerp, 2 pkgs.

FILTER PAPER

H. Reeve Angel & Co. Inc., *Antonia,* London, 18 cs.; E. H. Sargent & Co., *Rydboholm,* Gothenburg, 2 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., *Aurania,* Liverpool, 43 cs. (duplex); B. F. Drakenfeld & Co., *Aurania,* Liverpool, 6 cs. (simplex).

TISSUE PAPER

F. C. Strype, *American Traveler,* Liverpool, 4 cs.; B. F. Drakenfeld & Co., *Aurania,* Liverpool, 1 cs.

LITHO PAPER

General Printing Ink Corp., *Pr. Lincoln,* Hong Kong, 20 cs.; A. E. Metzger, *Pr. Lincoln,* Hong Kong, 20 cs.

CARD BOARD

———, *Washington,* Hamburg, 26 cs.

BOARDS

Salwen Paper Co., *Rydboholm,* Gothenburg, 18 bls.

MISCELLANEOUS PAPER

Japan Paper Co., *Bordeaux,* Kobe, 84 cs.; Japan Paper Co., *Pr. Lincoln,* Kobe, 43 cs.; A. Johnson & Co., *Rydboholm,* Gothenburg, 58 bls.; Steiner Paper Corp., *Rydboholm,* Gothenburg, 7 cs.; Jay Madden Corp., *Rydboholm,* Hango, 117 bbls., 2 cs.; H. Reeve Angel & Co. Inc., *Tai Yin,* Yokohama, 4 cs.; Möller Products Corp., *Tai Yin,* Yokohama, 22 cs.; ———, *Taihei Maru,* Kobe, 39 cs.

RAGS, BAGGINGS, ETC.

S. Shapiro & Son, *Nako Maru,* Yokohama, 35 bls. cotton waste; W. R. Grace & Co., *Nako Maru,* Shanghai, 200 bls. cotton waste; ———, *Pr. Harding,* Hamburg, 110 bls. new cuttings; National City Bank, *American Traveler,* Manchester, 41 bls. old strings; ———, *American Traveler,* Manchester, 164 bls. bagging, 69 bls. rags, 298 bls. cotton waste; Royal Manufacturing Co., *American Traveler,* Manchester, 24 bls. cotton waste; Leigh Textile Co., *American Traveler,* Manchester, 50 bls. cotton waste; E. Butterworth & Co. Inc., *American Traveler,* Manchester, 152 bls. bagging; S. Frankenhuis & Son, *American Traveler,* Manchester, 115 bls. cotton waste; Manufacturers Trust Co., *American Traveler,* Manchester, 19 bls. paper stock; E. J. Keller Co. Inc., *American Traveler,* ———, 131 bls. bagging; ———, *American Traveler,* Liverpool, 29 bls. rags; M. Snedeker Corp., *American Traveler,* Belfast, 164 bls. paper stock; Royal Manufacturing Co., *Bordeaux Maru,* Shanghai, 100 bls. cotton waste; Railway Supply & Manufacturing Co., *Bordeaux Maru,* Shanghai, 100 bls. cotton waste; J. J. Ryan & Sons, Inc., *Bordeaux Maru,* Shanghai, 50 bls. cotton waste; New England Waste Co., *Bordeaux Maru,* Kobe, 200 bls. cotton waste; First National Bank of Boston, *Bordeaux Maru,* Kobe, 300 bls. cotton waste; Hoffman Lion Mills Co. Inc., *Bordeaux Maru,* Kobe, 110 bls. rags; S. Shapiro & Sons, Inc., *American Shipper,* London, 40 bls. rags; J. Cohen Son & Co. Inc., *American Shipper,* London, 34 bls. rags; ———, *American Shipper,* London, 87 bls. rags; E. J. Keller Co. Inc., *American Shipper,* ———, 66 bls. bagging; Hicks Costarino Co. Inc., *Liberty,* Manchester, 35 bls. new cuttings; Loumar Textile By Products, Inc., *Liberty,* Manchester, 48 bls. bagging; ———, *Liberty,* Manchester, 91 bls. cotton waste; J. Cohen Son & Co. Inc., *Liberty,* Belfast, 71 bls. paper stock; Great Eastern Packing & Paperstock Corp., *Liberty,* Glas-

gow, 110 bls. bagging; Irving Trust Co., *Liberty,* Liverpool, 267 bls. picker waste; Chase National Bank, *Liberty,* Liverpool, 28 bls. bagging; J. Eisenberg & Son, *Seatrain New Orleans,* Havana, 828 pkgs. rags; E. J. Keller Co. Inc., *Examelia,* ———, 216 bls. paper stock; E. J. Keller Co. Inc., *Maasdam,* ———, 92 bls. paper stock; E. J. Keller Co. Inc., *Hamburg,* ———, 100 bls. cotton waste; Irving Trust Co., *Antonia,* London, 58 bls. rags; Irving Trust Co., *Westernland,* Antwerp, 130 bls. jute waste; Chase National Bank, *Westernland,* Antwerp, 103 bls. flax waste, 261 bls. jute waste; Manufacturers Trust Co., *Westernland,* Antwerp, 121 bls. flax waste, 95 bls. jute waste; ———, *Westernland,* Antwerp, 188 bls. rags; Hughes Fawcett, *Westernland,* Antwerp, 6 bls. flax waste; Philadelphia National Bank, *Westernland,* Antwerp, 72 bls. rags; R. J. Ross & Co. Inc., *Exchange,* Leghorn, 227 bls. old cottons; D. Benedetto, Inc., *Exchange,* Leghorn, 137 bls. rags; Irving Trust Co., *City of Dundee,* Bombay, 68 bls. rags; Banco Coml. Italiane Trust Co., *City of Dundee,* Bombay, 85 bls. rags; E. J. Keller Co. Inc., *City of Dundee,* ———, 337 bls. paper stock; H. Hollander, *Scanyork,* Copenhagen, 64 bls. rags; E. J. Keller Co. Inc., *Tai Yin,* ———, 520 bls. paper stock; Chase National Bank, *Tai Yin,* Shanghai, 100 bls. cotton waste; First National Bank of Boston, *Tai Yin,* Shanghai, 300 bls. cotton waste; ———, *Tai Yin,* Shanghai, 100 bls. cotton waste; S. Shapiro & Sons, Inc., *Silverbeech,* Bombay, 275 bls. cotton waste, 78 bls. bagging; Linter Supply Co., *Silverbeech,* Bombay, 50 bls. cotton waste; Royal Manufacturing Co., *Silverbeech,* Bombay, 200 bls. cotton waste; ———, *Silverbeech,* Bombay, 150 bls. cotton waste; O'Brien Padawer Co., *Silverbeech,* Bombay, 200 bls. cotton waste; Hicks Costarino Co. Inc., *Silverbeech,* Bombay, 61 bls. rags; Castle & Overton, Inc., *Silverbeech,* Bombay, 125 bls. rags, 98 bls. new cuttings; F. Stern, *Silverbeech,* Bombay, 142 bls. rags; Loumar Textile By Products Co., *Silverbeech,* Bombay, 124 bls. bagging; E. J. Keller Co. Inc., *Silverbeech,* ———, 202 bls. paper stock; E. J. Keller Co. Inc., *Taian Maru,* ———, 300 bls. paper stock.

HIDE CUTTINGS

American Express Co., *American Traveler,* Liverpool, 702 bags.

OLD ROPE

Chase National Bank, *American Merchant,* London, 64 coils; Chase National Bank, *Washington,* Southampton, 15 coils; Banco Coml. Italiane Trust Co., *American Merchant,* London, 61 coils; Banco Coml. Italiane Trust Co., *American Shipper,* London, 57 coils; Banco Coml. Italiane Trust Co., *Antonia,* London, 123 coils.

CHINA CLAY

English China Sales Corp., *Aurania,* Liverpool, 56 bags; Whitaker Clark & Daniels, *Aurania,* Liverpool, 260 bags.

CASEIN

———, *Berengaria,* Southampton, 133 bags; ———, *Northern Prince,* Buenos Ayres, 250 bags; C. W. Burckhalter, Inc., *Washington,* Hamburg, 117 bags.

WOOD PULP

Lagerloef Trading Co., *Minnequa,* Helsingfors, 520 bls. mechanical pulp, 104 tons; Lagerloef Trading Co., *Malaren,* Kotka, 5,896 bls. sulphite; Lagerloef Trading Co., *Malaren,* Kotka, 3,091 bls. sulphate; Castle & Overton, Inc., *Malaren,* Kotka, 1,355 bls. sulphite; ———, *Kersten Miles,* Stugsund, 4,500 bls. sulphite, 900 tons; Johaneson Wales & Sparre, Inc., *Kersten Miles,* Sundsvall, 6,715 bls. sulphite, 1,254 tons; Mead Sales Co. Inc., *Kersten Miles,* Sundsvall, 610 bls. chemical pulp, 122 tons; Bulkley Dunton Pulp Co., Inc., *Kersten Miles,* ———, 1,500 bls. sulphate, 300 tons; ———, *Kersten Miles,* Obbola, 5,600 bls. sulphate, 800 tons; Perkins Goodwin & Co., *Kersten Miles,* Obbola, 2,100 bls. sulphate, 300 tons; ———, *Kersten Miles,* Hernosand, 4,000 bls. sulphite; ———, *Kersten Miles,* Hernosand, 2,958 bls. sulphate; Lagerloef Trading Co., *Scanyork,* Helsingfors, 4,291 bls. sulphite, 803 tons; Lagerloef Trading Co., *Scanyork,* Helsingfors, 1,010 bls. sulphate, 180 tons; Castle & Overton, Inc., *Scanyork,* Helsingfors, 2,083 bls. sulphite, 411 tons; Perkins Goodwin & Co., *Rydboholm,* Gothenburg, 285 bls. sulphite; Perkins Goodwin & Co., *Rydboholm,* Gothenburg, 279 bls. sulphate; Lagerloef Trading Co., *Rydboholm,* Gothenburg, 770 bls. sulphite; M. Sone, *Topdalsfjord,* Oslo, 1,316 bls. wood pulp.

WOOD PULP BOARDS

Jay Madden Corp., *Minnequa,* Helsingfors, 103 bls.; ———, *Malaren,* Kotka, 1,342 rolls, 100 bls.; Jay Madden Corp., *Scanyork,* Helsingfors, 77 rolls, 164 bls.; H. Fuchs & Son, *Rydboholm,* Gothenburg, 29 crates; ———, *Rydboholm,* Gothenburg, 376 bls.; ———, *Washington,* Hamburg, 57 bls., 263 pkgs.

WASTE WOOD PULP RESIDUE

H. Firman & Co., *American Merchant,* London, 10 drums.

PORTLAND IMPORTS

WEEK ENDING MARCH 6, 1937

Lagerloef Trading Co., *Malaren,* Kotka, 2,403 bls. sulphite; Lagerloef Trading Co., *Malaren,* Kotka, 1,106 bls. sulphate; Lagerloef Trading Co., *Malaren,* Rauma, 3,740 bls. snlphite; Lagerloef Trading Co., *Malaren,* Rauma, 2,430 bls. sulphate; Johaneson Wales & Sparre, Inc., *Kersten Miles,* Sundsvall, 1,200 bls. sulphite, 200 tons; Johaneson Wales & Sparre, Inc., *Kersten Miles,* Sundsvall, 2,000 bls. chemical pulp, 400 tons; J. Andersen & Co., *Kersten Miles,* Sundsvall, 4,800 bls. sulphate, 800 tons; Johaneson Wales & Sparre, Inc., *Kersten Miles,* Obbola, 2,800 bls. sulphate, 400 tons; ———, *Kersten Miles,* Obbola, 700 bls. sulphate, 100 tons; Gottesman & Co. Inc., *Tatra,* Sweden, 1,875 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING MARCH 6, 1937

Elliott Addressing Machine Co., *Bordeaux,* Yokohama, 12 cs. paper; T. D. Downing Co., *Liberty,* Manchester, 77 bls. new cuttings; G. W. Millar & Co. Inc., *Liberty,* Dublin, 59 bls. waste paper; Brown Bros. Harriman & Co., *Liberty,* Belfast, 141 bls. paper stock; T. D. Downing Co., *Liberty,* Glasgow, 11 bls. rags; ———, *Liberty,* Glasgow, 14 bls. rags, 107 coils old rope; Brown Bros. Harriman & Co., *Liberty,* Liverpool, 57 coils old rope; ———, *Tai Yin,* Kobe, 274 bls. cotton waste; First National Bank of Boston, *Silverbeech,* Bombay, 100 bls. cotton waste; Irving Trust Co., *Silverbeech,* Bombay, 109 bags old pickers; Royal Manufacturing Co., *Silverbeech,* Bombay, 233 bls. cotton waste.

PHILADELPHIA IMPORTS

WEEK ENDING MARCH 6, 1937

J. W. Hampton Jr. & Co., *Minnequa,* Helsingfors, 238 rolls newsprint; F. Whitaker Co., *Minnequa,* Copenhagen, 5 bls. rags; Royal Manufacturing Co., *Bordeaux Maru,* Shanghai, 100 bls. cotton waste; E. J. Keller Co. Inc., *Bordeaux Maru,* ———, 6 bls. rags; J. M. Hagy Waste Works, *Bordeaux Maru,* Kobe, 100 bls. rags; ———, *Bordeaux Maru,* Kobe, 90 bls. rags; Chase Ntaional Bank, *Liberty,* Liverpool, 47 bls. dark cottons; ———, *Liberty,* Liverpool, 198 bls. bagging; E. J. Keller Co. Inc., *Exchange,* ———, 263 bls. rags; R. Blank, *Exchange,* Marseilles, 165 bls. rags; Manufacturers Trust Co., *City of Dundee,* Bombay, 188 bags pickers; Gottesman & Co. Inc., *Scanyork,* Stockholm, 1,200 bls. sulphate, 203 tons; J. W.

(Continued on page 44)

Two Models
for taking temperatures of Drying Rolls

No need to stop the machine when taking roll temperatures. The thermocouple strip of the Cambridge Surface Pyrometer conforms to the shape of the roller. Within five seconds a steady reading of temperature is obtained. The HAND MODEL is a self-contained instrument for use upon readily accessible moving rolls. The EXTENSION MODEL is used for those hard-to-reach surfaces. Both models are sturdy and accurate.

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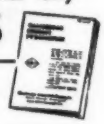

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SOLVAY SALES CORPORATION
Alkalies and Chemical Products Manufactured by The Solvay Process Company
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New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, March 10, 1937.

During the past week trading in the local paper market was brisk. Due to the rising costs of labor and raw materials prices have a rising tendency. Offerings are not excessive and some mills are having difficulty in filling orders for immediate delivery. Sales forces of the leading organizations continue optimistic.

The position of the newsprint paper market is gradually improving. Manufacturing operations in the United States, Canada and Newfoundland are being maintained in good volume to take care of pressing demands from newspaper publishers. Stocks at the mills are below normal. Prices remain unchanged.

Conditions in the fine paper market are favorable. Demand for book, cover, bond and ledger papers is well sustained. Sulphite bond prices are advancing. Tissues are moving into consumption freely. The coarse paper market is firm while the paper board industry is sharing the general improvement.

Mechanical Pulp

The position of the ground wood pulp market is practically unchanged. Production in North America and abroad is keyed to consumption and the statistical condition of the industry is considered sound. The contract movement is well up to average for the season. Prices are holding to schedule.

Chemical Pulp

Demand foi the various grades of chemical pulp is well sustained. Offerings of both imported and domestic varieties are scarce. Prices continue very firm. Bleached sulphite is quoted at from $2.90 to $3.85, on dock, Atlantic, Gulf and West Coast ports. Kraft No. 1 is selling at from $2.25 to $2.90.

Old Rope and Bagging

The old rope market continues firm. Offerings of domestic and imported old manila rope are limited and quotations are stronger. The bagging market is fairly steady. Demand for scrap and gunny bagging is holding up well and prices are well maintained. Roofing bagging is in seasonal request.

Rags

Steadiness prevails in the domestic rag market. Paper mill demand for new and old cotton rags is moderately active. There is some interest in No. 1 white shirt cuttings for home and export account. Roofing grades are rather quiet at present. No radical changes have transpired in the imported rag market.

Waste Paper

The paper stock market is exhibiting a stronger undertone. Board mill demand for the lower grades is fairly active. Prices are firmer than of late. No. 1 mixed paper is now offered at from 6 to 6½ cents, f. o. b., New York. The higher grades of waste paper are steady and quotations are generally holding to schedule.

Twine

Business in the local twine market is fairly buoyant. Demand for the various varieties of twine is considered satisfactory for the season. Supplies are moving into consumption in good volume. In most instances prices of both hard and soft fiber twines are holding to formerly quoted levels.

Imports of Paper and Paper Stock

(Continued from page 42)

Hampton Jr. & Co., *Scanyork,* Helsingfors, 558 rolls newsprint; Jay Madden Corp., *Scanyork,* Helsingfors, 658 bls. wood pulp boards, 91 tons; The Borregaard Co. Inc., *Rydboholm,* Gothenburg, 125 bls. chemical pulp, The Borregaard Co. Inc., *Rydboholm,* Gothenburg, 406 bls., 2,099 rolls paper; Perkins Goodwin & Co., *Rydboholm,* Gothenburg, 899 bls. sulphate; Gottesman & Co. Inc., *Rydboholm,* Gothenburg, 630 bls. chemical pulp; J. W. Hampton Jr. & Co., *Rydboholm,* Hango, 433 rolls newsprint; Lagerloef Trading Co., *Rydboholm,* Hango, 3,175 bls. sulphite; E. J. Keller Co. Inc., *Black Falcon,* ———, 343 bls. paper stock; E. J. Keller Co. Inc., *Fermia,* ———, 746 bls. paper stock.

CAMDEN IMPORTS

WEEK ENDING MARCH 6, 1937

Lagerloef Trading Co., *Minnequa,* Helsingfors, 7,365 bls. sulphate, 1,473 tons; Lagerloef Trading Co., *Rydboholm,* Hango, 130 bls. mechanical pulp; Lagerloef Trading Co., *Rydboholm,* Hango, 3,408 bls. sulphite; Johaneson Wales & Sparre, Inc., *Rydboholm,* Norrkoping, 2,500 bls. sulphate; Johaneson Wales & Sparre, Inc., *Rydboholm,* Gothenburg, 1,495 bls. kraft soda pulp.

Einar Ahlman Dead

Cable from Finland announces the death March 8 at the age of sixty-three years of Einar Ahlman, chairman and managing director of Kymmene Aktiebolag of Kuusankoski, Finland.

Mr. Ahlman was well known throughout the United States, which he visited in 1924, as his company, the largest paper and pulp concern in Finland, supplies newsprint paper to numerous newspapers here.

Mr. Ahlman who was one of the leading industrialists of Finland, was a lawyer by profession. He had held various public offices and was on the board of numerous companies and organizations in his native country.

Correction

Referring to the report of the Annual Meeting of the Blotting Paper Manufacturers Association which appeared in the February 25 issue of the PAPER TRADE JOURNAL, W. W. Langtry, of the District of Columbia Paper Mills, Inc., Washington, D. C., was elected president and H. S. Mead, of the Wrenn Paper Company, Middletown, Ohio, vice-president.

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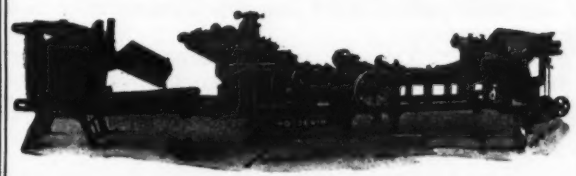

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Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, March 10, 1937.

BLANC FIXE—The blanc fixe market is moderately active. Contract shipments are moving in fairly good volume. The pulp is quoted at from $42.50 to $45 per ton, in bulk; while the powder is selling at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER—Steadiness prevails in the bleaching powder market. The contract movement is normal. Prices are generally holding to previously quoted levels. Bleaching powder is selling at from $2 to $2.25 per 100 pounds, in drums, at works.

CASEIN—The casein market is slightly softer. Domestic standard ground is quoted at 18 and finely ground at 18½ cents; while Argentine standard ground is selling at 19 and finely ground at 19½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA—Paper mill demand for caustic soda is fairly persistent. The contract movement is well up to average. Solid caustic soda is quoted at from $2.55 to $2.60; while the flake and ground are selling at from $2.95 to $3 per 100 pounds, in drums, at works.

CHINA CLAY—The china clay market is exhibiting a strong undertone. Shipments against contract are moving regularly. Imported china clay is quoted at from $15 to $21 per ton, shipside; while domestic paper making clay is selling at from $6.50 to $12 per ton, at works.

CHLORINE—Trading in the chlorine market is fairly heavy. The contract movement is normal for the season. Prices are holding to schedule and reports of concessions are infrequent. Chlorine is quoted at from $2.15 to $2.25 per 100 pounds, in tank cars, at works.

ROSIN—The rosin market is slightly easier. Paper making gum rosin is quoted at $9.20 and wood rosin at $9.35 per 280 pounds, gross weight, in barrels, at Savannah. Seventy per cent rosin size is selling at $4.07 per 100 pounds, in tank cars, at works.

SALT CAKE—Business in the salt cake market is brisk. Prices are steady to firm. Salt cake is quoted at from $12 to $13; chrome salt cake at from $11 to $12 per ton, at works; while imported salt cake is selling at from $12 to $13 per ton, ship side.

SODA ASH—The soda ash market is displaying strength. Contract shipments are moving freely. Prices remain steady and unchanged. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.05; in bags, $1.20; and in barrels, $1.50.

STARCH—Trading in the starch market is fairly buoyant. Shipments against contract are going forward at a steady pace. Prices continue steady. Special paper making starch is quoted at $4 per 100 pounds, in bags; and at $4.27 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA—The sulphate of alumina market continues active. Prices are holding to schedule, in most instances. Commercial grades are quoted at from $1.35 to $1.60; while iron free is selling at from $2 to $2.25 per 100 pounds, in barrels, at works.

SULPHUR—The sulphur market is steady. Yearly contracts are quoted at $18 per long ton, on orders of 1,000 tons, or over and $20 on smaller quantities. On spot and near-by car loads the quotation is $21 per ton. All quotations are in car lots, at works.

TALC—Conditions in the talc market are fairly satisfactory. The contract movement is seasonal. Prices remain unchanged. Domestic talc is quoted at from $16 to $18 per ton, at eastern mines; while imported talc is selling at from $23 to $30 per ton, on dock.

Market Quotations

Paper

Rag Content Bond & Ledgers—Delivered Zone 1

	Bonds		Ledgers
100% Rag Ext. No. 1	.36		.37
100% Rag	.29	@	.30
75% Rag	.22	@	.23
65% Rag	.19	@	.20
50% Rag	.15½	@	.16½
25% Rag	.13	@	.14

Sulphite Bond & Ledgers—Delivered Zone 1

	Bonds		Ledgers
No. 1 Sulphite	8.00	@	9.00
No. 2 Sulphite	7.00	@	8.00
No. 3 Sulphite	6.75	@	7.75
No. 4 Sulphite	6.50	@	7.50
Book, B Grade, Cased (f.o.b. mill less carload freight allowed)			
S. & S. C.	6.00	@	—
S. & S. C. Litho	6.25	@	—
M. F.	5.75	@	—
No. 4 Coated and Enamel	7.00	@	—
No. 4 Coated Litho	7.00	@	—
Tissues—Per Ream			
White No. 1	.95	@	—
White No. 1 M. G.	.92½	@	—
White No. 1½	.67½	@	—
White No. 2	.62½	@	—
Anti-arnish M. G.	.75	@	—
Colored	.87½	@	—
Kraft	.75	@	—
Manila	.62½	@	—
Unbleached Toilet	2.60	@	3.30
Bleached Toilet	3.94	@	5.26
Paper Towels—			
Unbleached	2.10	@	3.35
Bleached	3.30	@	3.70
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75

(Delivered New York)

News, per ton—			
Roll, contract	42.50	@	—
Sheets	47.50	@	—
Kraft			
No. 1 Northern	5.25	@	5.75
Standard	5.00	@	—
Southern	5.00	@	—
Glazed	4.50	@	—
Striped	4.75	@	—
Boards, per ton—			
News	42.50	@	45.00
Chip	42.50	@	45.00
Sgl. Mla. LL Chip	52.50	@	55.00
Jute Lined Chip	52.50	@	55.00
Kraft Liners	67.50	@	70.00
White Pat. Coated	65.00	@	67.50
Binders Boards	70.00	@	75.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	33.00	@	35.00
Dry	33.00	@	35.00
(Delivered)			
No. 1 Domestic and Canadian	33.00	@	36.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Prime Bleached Sulphite	2.90	@	3.85
Prime Qualities—			
Easy-Bleaching Sulphite	2.95	@	3.25
Strong Unbleached Sulphite	2.75	@	3.10
(On Dock, Atlantic Ports)			
Kraft Bleached	3.50	@	3.75
Kraft Light & Strong	2.35	@	3.00
Kraft No. 1	2.25	@	2.90
Kraft No. 2	2.10	@	2.25
(F.o.b. Pulp Mill)			
Kraft Domestic	2.50	@	2.80
(Delivered)			
Soda Bleached	2.90	@	—

Add 60 cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1.	9.00	@	9.25
Silesias No. 1	6.75	@	7.00
New Unbleached	9.25	@	9.50
Blue Overall	7.00	@	7.25
Fancy	3.50	@	3.75
Washables	2.25	@	2.50
Mixed Khaki Cuttings	3.50	@	3.75
O. D. Khaki Cuttings	4.25	@	4.50

Old Rags

White, No. 1—			
Repacked	3.50	@	3.75
Miscellaneous	3.00	@	3.25
White, No. 2—			
Repacked	2.50	@	2.75
Miscellaneous	2.00	@	2.25
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.90	@	2.00
Roofing Rags—			
No. 1	Nominal		
No. 2	1.90	@	2.00
No. 3 (bagging)	1.50	@	1.60
No. 4	1.50	@	1.60
No. 5A	1.40	@	1.50

Foreign Rags

New Rags

New Dark Cuttings	2.25	@	2.50
New Mixed Cuttings	2.00	@	2.25
New Light Silesias	5.50	@	5.75
Light Flannelettes	5.50	@	5.75
New White Cuttings	7.00	@	7.50
New Light Oxfords	4.00	@	4.50
New Light Prints	3.00	@	3.25

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	4.25	@	4.75
No. 2 White Cotton	3.25	@	3.75
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	2.25	@	2.50
French Blue Linens	3.50	@	4.00
German Blue Linens	2.50	@	2.75
German Blue Cottons	2.00	@	2.25
Checks and Blues	2.00	@	2.25
Linsey Garments	2.25	@	2.35
Dark Cottons	2.35	@	2.45
Old Shopperies	1.75	@	2.00
New Shopperies	1.75	@	2.00
French Blues	2.25	@	2.50

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	2.25	@	2.35
Domestic	2.15	@	2.25
Wool Tares, light	1.75	@	1.85
Wool Tares, heavy	2.20	@	2.35
Bright Bagging	1.70	@	1.75
Manila Rope—			
Foreign	3.80	@	3.90
Domestic	3.50	@	3.60
Jute Strings	2.75	@	3.00
Sisal Strings	2.60	@	2.75
Mixed Strings	Nominal		

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	3.20	@	3.30
Ordinary Hard			
White No. 1	2.50	@	2.60
Hard White No. 2	2.20	@	2.30
Soft White No. 1	2.00	@	2.10
Flat Stock—			
Stitchless	1.25	@	1.30
Over issue Mag	1.25	@	1.30
Solid Flat Book	1.15	@	1.25
Crumpled No. 1	1.00	@	1.10
Ledger Stock	1.30	@	1.35
New B. B. Chips	.50	@	.55
Manila—			
New Env. Cut	2.15	@	2.25
New Cuttings	1.60	@	1.70
Old Kraft Machine—			
Compressed bales	1.70	@	1.80
News—			
No. 1 White News	1.40	@	1.50
Strictly Overissue	.75	@	.80
Strictly Folded	.65	@	.70
No. 1 Mixed Paper	.60	@	.65

Reduce

Paper Breaks

WITH MICROMAX SPEED RECORDERS

Paper breaks occur less frequently when roller speeds are indicated and recorded by Micromax Speed Recorders. The big black pointer keeps operators informed of machine speed; the record shows upward or downward trend and enables the superintendent to put a premium on careful operation. Lights, horns, or other alarms may be operated by the recorder if speed reaches danger points.

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J-N 27 (2)

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Twines

(F. o. b. Mill)

(Soft Fibre)

Coarse Polished—

India	.14½	@	.17½
Belg. White Hemp	.15½	@	.19½
India Compress	.15¼	@	.15¾

Fine Polished—

Fine India	.21	@	.23

Unpolished—

Box	.10¼	@	.11¼
Paper Makers	.10½	@	.12¾
Tube Rope	.11½	@	.14
Wall Paper	.12½	@	.13¼
Wrapping	.16	@	.20
Soft Fiber Rope	.13¼	@	.14¼

(Hard Fibre)

Bond	.13¾	@	.22
Anchor	.13	@	.14½
Manila	.21	@	.28

PHILADELPHIA

Paper

Rag Content Bond & Ledgers—Delivered Zone 1

	Bonds		Ledgers
100% Rag Ext. No. 1	.36		.37
100% Rag	.28		.29
75% Rag	.21		.22
65% Rag	.18		.19
50% Rag	.15		.16
25% Rag	.12½		.13½

Sulphite Bond & Ledgers—

	Bonds		Ledgers
No. 1 Sulphite	7.75		8.75
No. 2 Sulphite	6.75		7.75
No. 3 Sulphite	6.00		7.00
No. 4 Sulphite	5.50		6.50

F.o.b. Mill

Book, M.F.	5.00	@	—
Book, S. S. & C.	5.25	@	—
Book, Coated	6.75	@	—
Coated Lithograph	6.75	@	—
No. 1 Jute Manila	10.50	@	—
Manila Sul., No. 1	6.75	@	—
Manila No. 2	4.25	@	—
No. 1 Kraft	6.00	@	—
Southern Kraft	5.00	@	—
News Print Rolls	42.50	@	—
Straw Board	40.00	@	45.00
News Board	40.00	@	—
Chip Board	37.50	@	—
Wood Pulp Board	70.00	@	85.00

Binder Boards—

No. 1, per ton	75.00	@	80.00
No. 2, per ton	70.00	@	75.00
Carload lots	65.00	@	70.00

Tarred Felts—

Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1.	.08	@	.08½
New White, No. 2.	.04½	@	.05
Light Silesias	.05½		—
Silesias, No. 1	.04½	@	.05
Black Silesias, soft.	.03½	@	.04
New Unbleached	.06	@	—
Washable, No. 1	.02	@	.02½
Blue Overall	.07	@	.07½
Cottons—According to grades—			
Washable, No. 2	.02½	@	.04½
New Blue	.02	@	.02½
Fancy	.03	@	—
New Black Soft	.04	@	.04½
New Light Seconds	.03½	@	.04
New Dark Seconds	2.00	@	2.25
Khaki Cuttings—			
No. 1 O. D.	.04	@	.04½
No. 2 Mixed	.03½	@	.04
Corduroy	.02	@	.02¼
New Canvas	.04	@	.04½
New Black Mixed	.02	@	.02¼

Domestic Rags (Old)

White No. 1—			
Repacked	4.00	@	4.50
Miscellaneous	3.00	@	3.50
Thirds and Blues—			
Miscellaneous	2.00	@	2.25
Repacked	2.50	@	2.75
Black Stockings (Export)	4.50	@	5.00
Roofing Stock—			
Foreign No. 1	2.20	@	2.25
Domestic No. 1	2.10	@	2.20
Domestic No. 2	1.90	@	2.00
Roofing bagging	1.75	@	1.85

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	2.00	@	—
Domestic	2.25	@	—
Manila Rope	2.75	@	—
Sisal Rope	2.25	@	2.35
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	2.25	@	2.50
No. 2	1.00	@	1.10
Wool Tares, heavy	3.25	@	3.50
Mixed Strings	1.00	@	1.10
No. 1 New Light Burlap	3.00	@	3.50
New Burlap Cuttings	2.50	@	2.75

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.40	@	2.50
No. 2 Hard White	2.20	@	2.25
No. 1 Soft White	2.00	@	2.10
No. 2 Soft White	1.40	@	1.45
No. 1 Mixed	—	@	.85
Solid Ledger Stock	—	@	1.75
Ledger Stock, white	1.60	@	1.65
Ledger Stock, colored	1.20	@	1.25
No. 1 Books, heavy	1.20	@	1.25
Manila Cuttings	1.80	@	1.90
Print Manila	.60	@	.65
Container Manila	.50	@	.55
Kraft Paper	—	@	1.40
No. 1 Mixed Paper	.50	@	.55
Straw Board Chip	.50	@	—
Binders Board Chip	.50	@	—
Corrugated Board	.65	@	.70
Overissue News	.75	@	.80
Old Newspapers	.60	@	.65

BOSTON

Paper

Rag Content Bond & Ledgers—Delivered Zone 1

	Bonds		Ledgers
100% Rag Ext. No. 1	.36		.37
100% Rag	.28		.29
75% Rag	.21		.22
65% Rag	.18		.19
50% Rag	.15		.16
25% Rag	.12½		.13½

Sulphite Bond & Ledgers—Delivered Zone 1

	Bonds		Ledgers
No. 1 Sulphite	7.65		8.65
No. 2 Sulphite	6.75		7.75
No. 3 Sulphite	6.25		7.25
No. 4 Sulphite	5.50		6.50

F.o.b. Mill

Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06¼
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.05¼	@	—
No. 2 Kraft	.05	@	—

(Delivered New England points)

Southern Kraft	.05	@	—
News Print Rolls	42.00	@	—
Straw Board, rolls	.009	—	35.00
Filled News Board	45.00	@	47.50
Chip Board	42.50	@	45.00
Single Manila Lined Chip	52.50	@	57.50
Single White, Patent Coated News Board (Bender)	65.00	@	70.00
Wood Pulp Board	70.00	@	75.00
Binder Boards (Standard Grade)	70.00	@	—

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.20	@	2.35
No. 1 Soft White	1.85	@	2.15
No. 2 Mixed	.75	@	.80
Solid Ledger Books	1.50	@	1.75
Overissue Ledger Stock	1.30	@	1.50
Mixed Ledgers	.85	@	.90
No. 1 Books, heavy	1.35	@	—
No. 1 Books, light	.65	@	.75
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.60	@	1.70
Manila Env. Cuttings, extra quality	2.15	@	2.25
No. 1 Old Manila	.80	@	.85
White Blank News	1.25	@	1.30
No. 1 Kraft	1.90	@	2.00
Mixed Papers	.47½	@	.50
Print Manila	.60	@	.70
Container Manilas	.27½	@	—
Old Newspapers	.52½	@	.57½
Overissue News	.50	@	.65
Box Board Chips	.40	@	.45
Transmission Rope	2.00	@	2.25
Corrugated Boxes	.65	@	.70
Kraft corrugated boxes	1.50	@	1.60
Screening Wrappers	.60	@	.65

Bagging

(F. o. b. Boston)

Manila Rope—			
Foreign	3.90	@	4.00
Domestic	3.00	@	3.30
Jute Rope	2.50	@	2.75
Soft Jute Strings	2.50	@	2.62½
Jute Carpet Threads	1.75	@	2.00
Gunny No. 1—			
Foreign	2.25	@	2.35
Domestic	2.10	@	2.20
Bleachery Burlap	4.25	@	4.50
Scrap Burlap—			
Foreign	2.15	@	2.25
Domestic	2.10	@	2.20
Scrap Sisal	2.40	@	2.50
Scrap Sisal for Shredding	2.60	@	2.75
Wool Tares, heavy	2.25	@	2.40
New Burlap Cuttings	2.85	@	3.00
Aust. Wool Pouches	2.90	@	3.00
Heavy Baling Bagging	2.40	@	2.75
Paper Mill Bagging	1.75	@	1.80
Bagging No. 2	1.70	@	—

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.04	@	.04¼
New White No. 1	.08¾	@	.09
New White No. 2	.06	@	.06½
Silesias No. 1	.07¼	@	.07½
New Black Silesias	.04¼	@	.04½
Soft Unbleached	.09¼	@	.09½
Blue Cheviot	.07½	@	.07¾
Fancy	.03¾	@	.04
Washable	.03	@	.03¼
Cottons—According to grades—			
Blue Overalls	.07¼	@	.07½
New Black, soft	.04¼	@	.04½
Khaki Cuttings	.04¾	@	.05
O. D. Khaki	.05	@	.05¼
Corduroy	.03¼	@	.03½
New Canvas	.07¾	@	.08¼
B.V.D. Cuttings	.08¾	@	.09

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	—	@	2.75
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	1.90	@	2.00
Miscellaneous	2.00	@	2.25
Twos and Blues	1.75	@	2.00
Thirds and Blues—			
Repacked	1.37½	@	1.75
Miscellaneous	1.25	@	1.62½
Black Stockings	3.90	@	4.00
Roofing Stock—			
No. 1	1.70	@	1.80
No. 2	1.60	@	1.70
No. 3	1.30	@	1.35

Foreign Rags

(F. o. b. Boston)

Dark Cottons	2.20	@	2.30
New white shirt cuttings	6.75	@	7.50
Dutch Blues	3.00	@	3.15
New Checks and Blues	2.85	@	3.00
Old Fustians	2.75	@	2.85
Old Linsey Garments	2.65	@	2.85
New Silesias	6.50	@	7.00

CHICAGO

Paper

(F. o. b. Mill)

Rag Bond	.12	@	.40
Water Marked Sulphite Bond	.06¾	@	.11
Sulphite Bond	.05½	@	.07¾
Superfine Writing	.18	@	.24
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¼	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¾
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¾	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.05¾	@	.07
White Tissue	.07	@	.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	42.00	@	—
Sheets, open	47.00	@	—
Boards, per ton—			
Plain Chip	46.50	@	—
Solid News	50.00	@	—
Manila Lined Chip	55.00	@	—
Patent Coated	65.00	@	—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings	1.70	@	2.00
No. 1 Hard White	1.40	@	1.65
No. 1 Soft White	1.25	@	1.50
Ledger & Writings	.60	@	.70
Solid Books	.50	@	.60
Blanks	1.00	@	1.05
Krafts	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.40	@	.50
Overissue News	.40	@	.45
Old Newspapers—			
No. 1 Folded News	.42½	@	.45
No. 1 Mixed Paper	.25	@	.30
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

TORONTO

Paper

Bonds and Ledgers

Delivered

No. 1 White	.35½	@	—
No. 1 Tints	.36½	@	—
No. 2 White	.26½	@	—
No. 2 Tints	.27½	@	—
No. 4 White	.14½	@	—
No. 4 Tints	.15½	@	—
No. 5 Bond—White	.10¾	@	—
No. 5 Bond—Tints	.11¾	@	—
No. 5 Bond — Golden Rod	.12¾	@	—
No. 5 Ledger—White	.11¼	@	—
No. 5 Ledger—Tints	.12¼	@	—
No. 6 Bond—White	.10	@	—
No. 6 Bond—Tints	.10½	@	—
No. 6 Bond—Golden Rod	.12	@	—
No. 7 Bond—White	.08¼	@	—
No. 7 Bond—Tints	.08¾	@	—
No. 7 Bond—Golden Rod	.10¼	@	—
Book—			
No. 1 M. F.	6.50	@	6.75
No. 2 M. F.	6.25	@	6.50
No. 3 M. F.	5.00	@	5.35
No. 1 S. C.	7.00	@	7.50
No. 2 S. C.	6.50	@	7.00
No. 3 S. C.	5.50	@	6.00
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	13.00	@	—
Wrapping—delivered—			
Rag Brown	4.75	@	—
White Wrap	3.50	@	—
"B" Manila	4.80	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft, No. 2	5.40	@	—

(F. o. b. Cars Toronto)

News, per ton—			
Rolls (contract)	Nominal		
Sheets	Nominal		

Pulp

Ground wood	29.00	@	30.00
Unbleached Sulphite	52.00	@	—
Book (Class 1)	64.00	@	—
Writing (Class 2)	65.00	@	—
Select (Class 3)	66.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.00	@	2.25
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.00	@	—
Light and Crumpled Book Stock	.90	@	—
Ledgers and Writings	1.10	@	—
Manila—			
New Manila Cut	1.20	@	1.40
Printed Manilas	.55	@	—
Kraft	1.00	@	1.60
News and Scrap—			
Strictly Overissue	.65	@	—
Strictly Folded	.65	@	—
No. 1 Mixed Paper	.55	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09	@	.09¼
Fancy Shirt Cuttings	.03¾	@	.04